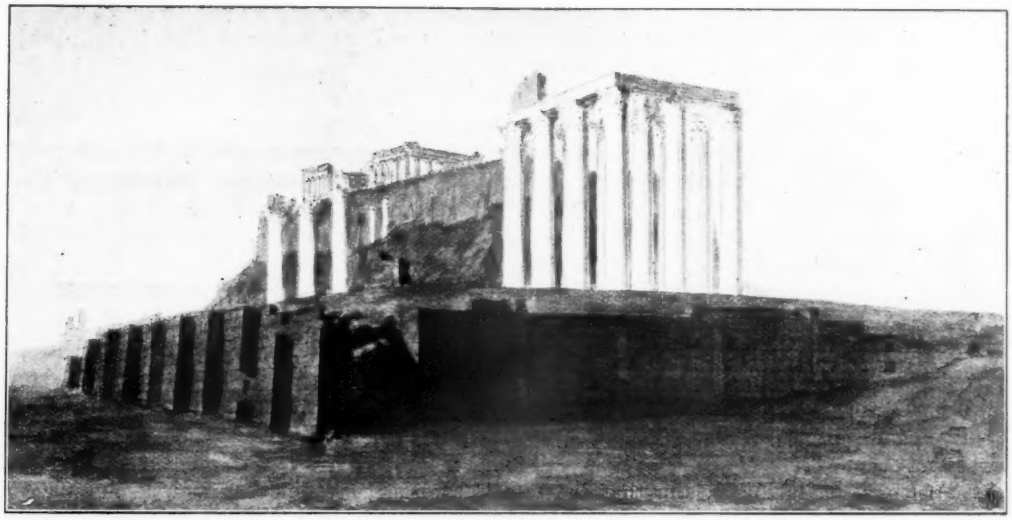


THE THEORY OF GREEK ARCHITECTURE.

By Professor W. R. Lethaby [*F.*].

Address to Students delivered at the General Meeting of the Royal Institute of British Architects, Monday, 3rd February 1908.

WHEN our President honoured me with an invitation—command, I considered it—to prepare an address for this evening, I felt it due to the occasion to refrain from any question which might seem narrowly controversial, or too much identified with any personal views which I may before have expressed; and I suggested that I should bring before you some reflections on the theory and principles of Greek art as the type of the classical spirit. I may need to excuse myself for speaking on such an abstract subject; I know that some of my friends are given to thinking that theorising is incompatible in some way with practical work, and that the great works of the past were done by men who wrought rather than talked. This, fortunately, is a question that can be tested by the historical method, and I believe that concern with theory is only inimical to some kinds of work which label themselves practical, and not to all of them, or to the best.

It appears that the Greek architect, especially, was expected to hold and announce theories on his art, and many Greek architects published critical analyses of the buildings they had erected. Vitruvius tells us that Chersiphron and Metagenes wrote an account of the Ionic order of the Temple of Diana at Ephesus, that is, of the earlier temple, which was being built about the middle of the sixth century B.C.; that Ictinus and Carpion wrote on the Parthenon, of which Ictinus was one of the chief architects; and that Pythios wrote a volume on the Ionic Temple of Athena at Priene, of which he was architect, and, with Satyrus, an account of the Mausoleum. Of others he tells us that they produced general treatises on the symmetry of Doric buildings, or on the proportions of the Ionic and Corinthian Orders. And it was from these Commentaries that he gathered his facts as to Greek architecture. When we come to comparatively modern times we find that in all branches artists were ready to express their thoughts in a literary form. Giotto and Botticelli were writers, Leonardo was

a profound philosopher, Michael Angelo wrote sonnets, Dürer was a patient investigator, Reynolds an able essayist, Blake a great poet, and Morris was at once a giant with his hands as a productive worker, and with his pen in every form of literature. Most of the great architects from Alberti to Chambers wrote as well as built.

Not only were the Greek architects expected (it almost seems) to give a reasoned account of their art, but some of them, and those not the least practical, ventured into the field of general theory and sociology. Thus Socrates seems to have been a stone-cutter; and Hippodamus of Miletus, a famous architect of the great Periclean period, who laid out the Piræus and the cities of Rhodes and Thurium, anticipated Aristotle in treating of city polity. The latter, in the "Politics," tells that "Hippodamus the Milesian, the same who contrived the art of laying out towns, was in other respects over-eager of notoriety, and seemed to many to have had a very affected manner with his flowing array of locks and expensive ornaments, and a coarse warm vest, which he wore not only in winter but also in hot weather" (you see he was a clothes reformer, and wore homespun!) "He was the first who, not being actually engaged in the management of public affairs, took in hand to lay down what sort of government was best."

If I have justified the claim that the practical worker may—indeed, in an advanced age must—be interested in theory and principles, I come up against another feeling, acknowledged or latent in many minds, a sort of despair of finding one's way; for there are so many theories, and they are so contrary to one another. Of course there is contradiction, and to some extent nothing, for instance, could ever bring Ruskin and Fergusson to agree, or even to understand each other. And for myself, I must confess that I get rid of this class of contradiction by sweeping Fergusson—as a theorist, not as a painstaking collector of facts—out of my field of vision altogether. Very largely, however, these apparent contradictions are matters of difference in aspect, and of different use of terms. Thus, I remember being told that Aristotle said that Art was imitation, and wondering how he applied it to architecture. Later it was a comfort when I found out that it was specially limited not to apply to architecture, for that was not to be considered a "fine art," being too much conditioned by necessity to be imitative. Then it was explained that "imitation" was not at all copying of Nature, but something very subtle, a sort of power of thinking clearly and presenting vividly; an imitation, this, very much like what Ruskin meant by his "imaginative faculty." This last, on the other hand, was not anything fanciful and bogey, like that which too many of us mean by imagination, but the power of inward sight, the power of seeing in images. If I have gained your consent, and, more, your sympathy, in such an inquiry, I want to ask, What was the essence of Greek Architecture, the people's mind, behind the triglyphs, epistyles, and pediments? And, still further, how may we apply the classical spirit to modern problems? The architectural features were inherited; it is not those which concern us, but the underlying theory which dealt with them.

The material was not only inherited, but inherited from a stage of primitive art not very remote. In the text-books the origins of Greek architectural elements are rightly touched upon; and in the *sudden* emergence of the perfect Greek civilisation we have one, and that perhaps the greatest, of the factors which ruled Greek architecture throughout its development. Barbarism was all around, and barbarism was only of yesterday. The Periclean age was only the first round, as it were, of a critical civilisation. Everywhere you will find evidence of this. I happened on the thought the other day in a translation of Lucretius, and Professor Gilbert Murray's *Rise of the Greek Epic* is full of it. The architecture of Athens was in darkness a hundred years before the building of the Parthenon. The lesson and substance of Greek architecture for us, if we could get at it, is in the principle; the features themselves are

largely accidental and primitive. As Morris said, with marvellous directness, "the Parthenon is a glorified Stonehenge." In a word, the Greek art ideal was intensity, not variation or originality. They worked on the types ready to hand, but they would have perfected chimneys, window-openings, and down-pipes. I cannot, of course, cover the whole field of Greek architecture, but I wish especially to raise again the question of proportion, on which, as I think, so much vague and high-flown nonsense has been talked by persons who have never waited to ask themselves what they can mean. Proportion to the modern mind can, I think, mean in the main only organic fitness plus habit. To the ancients from their manner of thought it meant more; it was undoubtedly believed that the perfect work was conditioned by a scheme of related measurements. This idea of proportion meant first what was assumed to be a proper relation of parts to one another and to the whole—that is ratio. It also seems to have meant the use of similar ratios in different parts, giving a series of dimensional echoes. Now, of course, we all believe in "organic fitness" and the "proper relation of parts," but the insoluble queries are—What are they? How are we to find them? To the Greek mind proportion meant the discovery of a law of typical perfection like the laws of geometry, number, and music: to apply it to building was the way to attain to an Absolute Architecture.

That simplicity, orderliness, discipline are best we can all acknowledge, but the modern man seeks right and fitness by direct experiments. From a long series of experiments he may at last deduce some general laws. He does not first assume some simple mathematical relation of parts for his chemical compounds and experiment only along those lines.

In the modern bicycle, locomotive, or fiddle, for instance, a general relation of parts (*its* due proportions) has been reached. This ratio is the accident of the bicycle, but to the classical mind the bicycle would be the accident of some supposed perfect ratio.

It is obvious that the complexity of the modern bicycle makes such an idea difficult of application, while the long-continued simplicity of temple architecture made the idea perfectly simple. It was from this assumption as to typical perfection, arrived at by mathematical relation of parts, that the method of proportional measurements arose which forms the crudest aspect of the theory of proportion.

It is easy to see that if there be a perfect ideal for a chamber or a pillar, the forms are likely to be such as can easily be brought to a definition. The chamber, on this theory, is likely to be a cube, or a double cube, or to be two parts wide, three parts high, and four parts long. The whole of this idea of perfect relations depends on *simplicity*, for in any quantities, of course, there is no getting away from ratios of some sort: 7 to 13 is a ratio, but not so simple a one as 6 to 12. Any gin-palace at any corner is much fuller of ratios than the Parthenon, but they are not so simple.

I suppose it was held that a well-proportioned temple was agreeable to the eye, but I am sure that the æsthetic agreeableness had little to do with it; perhaps it has less to do than we think with any great school of building; perhaps it is our twiddles to trick the eye that most betray us. To the ancient mind the thing made was only worthy to exist in so far as it followed its proper laws of being. The well-proportioned temple had *reality*, it embodied law, it was an approximation to the absolute type, it was superhuman, and held some magic of perfection; the Parthenon was not designed, it was embodied, found out, revealed.

While the benefits which came of following this line of development are manifest, it was only one of an infinite number of possible starting points. It is the starting, not the point, which matters. I can see no ground, however, for any of the assumptions. I do not see that a tree is likely to be more of a tree or even more agreeable to the eye for being twice as high as it is broad, or that we do anything more wonderful for a bicycle by expressing its ratios in the modulus of the backbone than if we give the size in inches. The tree is proportioned to

its kind, age, soil, climate, the rains and wind; and the bicycle corresponds with a long series of conditions.

The method of ratio measurement as used by Vitruvius is merely absurd, and can only be a parody of Greek thought on the subject. If Nature, says he, has made the body so that the members are measures of the whole (the modulus system you see clearly expressed), so the ancients have determined that in their works each portion should be an aliquot part of the whole. This seems quite simple, but the body is not so proportioned, and the theory never answers the master question as to how many parts of the lesser should go into the greater. How, for instance, are we to know if a column should be eight, nine, or ten times its diameter in height, and if either eight or nine why not anything between; indeed Vitruvius himself preferred eight and a half. It reminds one of the system of the London contractor who framed his estimates by multiplying a quarter by four—the quarter he guessed. Again, Vitruvius gives it as a great fact of natural proportion that if a man lies down with his arms fully extended he may be included in a square or a circle. He doesn't mention that, as the arms do not radiate from the middle of the body but from near the head, if all can be included in a circle the square which is also to enclose him will be very oblong. He is assured that "beauty is produced by the dimensions of all the parts being duly proportioned to one another." So are we, but the questions remain, Which, and how, and where?

Under the Greeks this conception of types and ratios provided a path to architecture. All the essentials were settled by custom and experiment, and the exact dimensions were fitted on later; but the ideal, the fact of having an idea, led on and on to the perfecting of types, if not to the one perfect type absolute and fixed.

As a result of these considerations, so far, I might offer a definition of architecture as—building, and the other arts associated with it, *continuously developed* along a certain line and in harmony with a guiding idea.

What I have been trying to say in regard to the development of Greek art has been so well said by Professor Butcher in reference to Greek literature that I shall make a free quotation from a passage or two:—"Nothing comes of its own accord to men, but all things by experiment. On the same principle, tragedy itself, as Aristotle remarks, having passed through many changes, found its natural form and there stopped. Man's selective instinct, working tentatively, brought the process of development to its proper term. When once any particular type was created, it assumed its sharp Hellenic outline. No blurred image, no confusion of kinds, was permissible. Any deviation from the type fell within well-defined limits. Each branch of literature obeyed a stringent code of its own. Its governing tradition answered to an artistic sense that art, to be progressive, must also be conservative. It must maintain a spirit of reverent regard for the past. Old materials must be used up; new ideas, whether of native origin or due to the absorption of foreign influences, must be slowly assimilated. In literary, as in artistic, development, there is growth and orderly advance. The whole effort of Greek literature is to evolve itself in unbroken sequence, without the rude snapping of any links which bind the present to the past, with no premature rejection of existing elements. Yet the persistent force of tradition did not check the free play of individual genius. The more rigorous the rules the greater the triumph of genius in obeying them without effort. The domain of the drama was by degrees restricted, but the narrower limits within which freedom was henceforth possible stimulated, rather than checked, dramatic originality. . . . The great writers, by the very force of their individuality, accept with ease much that is conventional. Thus Greece presents the phenomenon unique in literary history, namely, the creation of *fixed types*, governed by a rigid code of rules, yet working in harmony with the spontaneous play of native faculty."

This passage may remind us of another, in which Ruskin speaks of the Venetian builders as casting aside, one by one, many of the features and ornaments which were in common use, before they attained to freedom, force, and depth. As I want to insist on this view, that to deepen the current we must restrict the field over which it flows, I take a further passage from the great German critic of Greek sculpture, who died about six weeks ago (Furtwängler), which I have just lighted upon. "The ancient artist clung to established types of far-reaching influence. He obeyed laws and rules in his treatment of bodily forms and attitudes, which he modifies and alters, extends and fashions, after a new inspiration, but which yet impart to his whole production a something inevitable, typical, known by rule. It is this which brings about that unique effect of the antique which Goethe sums up in the words, 'These great works have been brought about in the same wise as the operations of nature. Everything arbitrary, everything self-conscious, disappears. There is Necessity, there is God.'"

The Greek ideal of proportion cannot be brought back; and, indeed, to some extent it may have been mistaken, but we can well see how the thought arose. At a time when the laws of geometry and music were being collected and investigated for the first time, when the paths of the stars were being mapped out, and language and politics were all being systematised, it was natural to search for the lines and measurements of the perfect building, musical in beauty, an expression of eternal law.

Perhaps we are now in a position to imagine what the orders were to the Greeks. The pillar and its beam were the most important and highly developed members of the structure; on the mainland they were perfected along narrow lines, and with their details became that very curious assemblage of parts which forms the Doric order. Change, design, originality, were all excluded. The pillar was their own inherited pillar, the germ of a perfect type which they were to discover by experiment and adjustment. In the great colonies of Asia Minor another type of column and beam was developed from a primitive original, and at last obtained in Greece proper an almost equal authority with the Doric order. Both of them were probably held to have been from the beginning like male and female (an image, indeed, which Vitruvius uses for them), each perfect of its kind. These are, properly, the only Greek orders: the Corinthian, as Choisy notices, is but a variety of the Ionic, and arose only at a late time, when the spirit of variety was entering into the classical art which it was to disintegrate. Each of the two great orders had essential character to be developed in differentiation. To mix their traits was to go against their proper genius. As well might one mix beef and mutton, or claret and hock.

Before passing on I should like to separate distinctly the two chief characteristics of Greek art which have engaged our attention.

I. By its historical position it was near to the primitive. It carried forward many features as inherited traditions. Such, for instance, were its triglyphs and guttæ, its stout columns and stone beams; and these were, in a sense, sacred. While writing this I have found this condition well summed up in a phrase by Mr. Berenson, the able critic of the Italian masters. "No art," he says, "can be classic unless it has been also archaic."

II. It was shaped by a philosophy according to which that which it inherited was not accidental, but the germ of an architecture complete and absolute. Its object was to go forward in unfolding the possibilities contained in this code, not widening its scope, but rather narrowing and deepening it. Originality in the modern sense was foreign to it. It sought to develop and fix types, to grasp the perfect and the lasting.

The problem which the study of Greek art or of Gothic art opens before us is not properly as to what they did, but how they did it as a process; and the question how we, too, may lay hold on destiny. The Gothic law of adventurous energy and the classic law of

development from within are both needed. It is not finding or inventing of features that will do anything for us; no individual search for proportion, beauty, or design can help without a wide basis of agreement. What we do want in our art to-day is: exact knowledge —engineer's, planner's, workman's knowledge; discipline—the training of a school which shall prune away mere excrescent fancies; and, above all, agreement—a voluntary subjection to reason, seriousness, reverence. It has sometimes been doubted whether a true school of art can be maintained in a highly developed and critical civilisation, but the study of Greek art seems to give a hopeful answer, although all hinges, now as then, on the possibility of finding a basis of agreement. If there is no general consensus as to the way in which work should be done, there is no mould for development to run in, but only little spasms of fashion. As George Eliot has remarked, "Great and precious origination can only exist on condition of a wide, massive uniformity. When a multitude of men have learned to use the same language, then, and then only, can the greatest masters of language arise."

The artist cannot for long be a creature unsupported in the air. He has, on the contrary, to find his support in ordinary life, common needs, and the sympathies of his fellows. On such a basis were the great pyramids of art of the past reared. A real process of development was set up by which the infinite possibilities hid in life, nature, and materials were continuously explored and built out step by step beyond the sphere of the known. The artist, then, was a medium through which the nature of things was discovered. Art was not volition, it was revelation. Now, with our genius and originality, we are all little separate pyramids six feet high at most; our arts are one man thick, not ten thousand men thick.

We moderns cannot be classic in one sense, for we are far away from the primitive, and inherit no sacred, archaic customs of building. All architectures, however, in civilisations of the modern kind will have, to some extent, to be classic, just as they will also have to be Gothic in energy and fearless experiment on the side of structure. There is nothing, however, so far away from the classic spirit as some of the modern works which would claim the name of classic. The heaping together of degraded borrowed forms in a promiscuous debauch of what is called design has, of course, nothing in common with the serene and clear genius of the Greeks. Some phases of the so-called Gothic style, such as the Cistercian abbeys in England and the north French cathedrals, notwithstanding all the unlikeness of the forms, approach very near to the classic spirit. Greek and Gothic alike teach that no great architecture can be the light and lax exercise of will and whim.

For a few last words I should like to draw a little nearer to the students' competitions, the subject which brings us together to-night. I am heartily glad that no detailed notice of the drawings is expected from me. On the one hand, I know that I should praise them extravagantly for the powers and devotion they show; on the other, I might be led into seeming blame of some aspects of the works which it occurs to me are in little or nothing the fault of the students, but rather the fault of ourselves and older generations, on the principle that when the fathers eat sour grapes the children's teeth are set on edge. I end, therefore, with just two suggestions, which I should like to call practical were it not that there might be a difference of opinion on that point. One is to the students, that they should make some effort after the classic spirit, and towards agreement amongst themselves—a little common ground is better than none, and if all the able and enthusiastic men of this year could get together they might decide what was to be the course of English architecture during the next twenty or thirty years. If they decided wisely to study scientific construction and convenient planning, to endeavour constantly to improve what we have and know, and to throw out the irrational element in modern architectural design; if they agreed on their scholarship travels to do some definite and exhaustive pieces of architectural study; if they even encouraged real,

common-sense draughtsmanship, colouring and lettering—undoubtedly great good would come of it. A few young men meeting together as pre-Raphaelites altered the whole course of English art. It is vain to expect this agreement from older men; they have passed beyond the stage where it is possible, and are thinking of other things; but I should like the youngsters to form a union and settle that reason shall rule in architecture for a generation.

To the members of this Institute I would venture to suggest that it might be possible to take a step in raising the academic status of these competitions, especially in making their results in historic scholarship more generally available: first, by inviting travelling students to undertake definite pieces of work like a renewed study of the Parthenon or the Pantheon; and secondly, by publishing the researches in an annual volume to accompany the Proceedings. I am even ambitious enough to hope that this Institute may some day be induced to spend some of its wealth (it has at least *my* subscription) in special exploration. Why should not our own students excavate a Greek site for this Institute?

REVIEW OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1908.

By E. Guy Dawber [*F.*].

Read at the General Meeting of the Royal Institute of British Architects, Monday, 3rd February 1908.

Mr. President, Ladies, and Gentlemen,—

THE duty of criticising the work of our students submitted for the various prizes has this year fallen to me, and I must confess to a certain feeling of trepidation in acquiescing with the desire of the Council that I should undertake it.

On looking round the gallery at the Alpine Club and contemplating the exhibition of drawings, and considering the enormous amount of thought and labour which their production entailed, the task of reviewing this work and holding the balance fairly between undue praise and narrow criticism seemed indeed a difficult one. But I must admit that it has been a most pleasant experience, and although I have spent many hours during the past week in examining these four hundred and forty-four sheets of drawings, at the end I came away with the conviction that if we have such earnest and painstaking students as these in our profession there need not be much misgiving about the outlook for the future.

The Institute is to be heartily congratulated on the excellent display this year. With perhaps one exception—that of the Soane—all the work submitted is of a high order and more than maintains the standard of former years. The number competing is exceptionally high, being no less than ninety-four against the sixty of last year. It is interesting also to note that the prizes which are of the least monetary value have attracted some of the keenest competition, and this, again, is most gratifying, as it shows an enthusiasm on the part of our students quite apart from the reward offered.

The quality of the draughtsmanship is higher than of late years; and although it is possible to exaggerate the importance of good drawing, yet all will admit that the art of expressing one's ideas on paper with power and facility is of immense advantage, and that no really able architect was ever a bad draughtsman. For this reason, if for no others, I would urge all our students to cultivate drawing, and to study the best examples and try to emulate, if not to surpass them.

On looking at the designs as a whole, it seemed to me doubtful if the competitors have taken sufficient care to thoroughly grasp the problems set—whether they have understood and appreciated the conditions and realised that a building should be made to express its purpose in its design, and that this quality is of the very essence of good architecture.

In the competition for the Soane Medallion, for example, the primary object of the building seems by many competitors to have been entirely overlooked. The subject, a Customs House, at once suggests a building quiet almost to severity in its lines and grouping, having a sternness and dignity in keeping with the dangers and vicissitudes of the sea; yet, almost without exception, it has been treated in much too municipal a spirit, and grandiose erections more like town-halls and libraries have been designed.

Again, I notice how much some students are influenced in their ideas by the passing fashion of the day: some noteworthy building is erected, and immediately any striking or unusual feature in it is borrowed and applied without regard to its suitability. I feel that students should learn to study buildings and not to copy them, and that a more severe and scholarly type of design should be encouraged in these competitions, though with our present system of education this, perhaps, is somewhat difficult.

It is particularly pleasant to record that no fewer than eight of the ten prizes have been won by members of our junior body, the Architectural Association.

With these few remarks I will begin my criticisms.

THE ESSAY MEDAL AND TWENTY-FIVE GUINEAS.

Four essays were submitted, and the Council considers that none of them are of sufficient excellence to justify the award of the prize. Mr. Percy M. Stratton has, however, made a fair attempt to deal with the subject, in spite of an unduly discursive style, and the Council have given him a Medal of Merit, and an Hon. Mention to Mr. Henry H. Hill, who submits an excellent treatise, but hardly an essay. It is much to be regretted that the literary side of our profession should be to a great extent neglected. This is hardly to be wondered at, for so few, I fear, read these essays. A student aspires to compete for a prize where he can at a glance compare the result of his own work with that of his fellows. It is, undoubtedly, a great advantage to be able to express his thoughts and ideas in well-chosen language as well as in beautiful drawings.

THE MEASURED DRAWINGS MEDAL.

I am glad to notice that the prize has this year attracted fifteen competitors, against the six of last year; and the drawings by the winner, Mr. Leslie Wilkinson, of the Gran Guardia Vecchia, Verona, fully sustain the standard of work always associated with it. Mr. Wilkinson has submitted a beautiful set of measured drawings of this simple yet dignified building of Sanmicheli, rendered in a sympathetic manner, and showing that he has thoroughly absorbed and caught the spirit of the original work. The careful yet boldly drawn details, with the jointing and construction of the masonry clearly shown, all evidence care and method in measuring and an earnest endeavour to understand the anatomy of the building.

An Hon. Mention and Five Guineas have been awarded to "Cantii" for a fine set of drawings of Cobham Hall, a picturesque building well worthy of being recorded in this way. The drawings not only show the complete plan of the house and surrounding buildings, but also the lay-out of the formal gardens and elevations of every part, with details to a larger scale—a painstaking work, and one which, if regarded only as a study of a seventeenth-century English house, must be very valuable.

The Council have also given an Hon. Mention to Mr. Maurice Lyon for his studies of the Porta del Palio, Verona, another fine example of Sanmicheli's work. The subject is a strong one, and Mr. Lyon has submitted very artistic drawings in pencil, tinted with a wash of colour and with the shadows projected on the plans, as well as the elevations—an effect in the former case not altogether satisfactory. The perspective admirably shows the huge solidity and massiveness of the structure.

"Victrix Fortunæ Sapientia" sends drawings of Barrington Court, Somersetshire, a building recently purchased by the National Trust. The plans and elevations are drawn in a bold and spirited manner, and the numerous dimensions evidence the care taken to thoroughly investigate the building. It would have been well to complete the drawing of some of the window-heads in the small-scale elevations, as the white blocks in outline give a false impression of the detail shown in the larger ones.

"Fairfax" shows an interesting set of the Banqueting House in Whitehall, well worthy of mention, and delineated with a crispness and vigour that is most pleasing. The sections are full of interest, and illustrate the construction of the roof, and the ceiling, which has been recently restored, divided into panels. His perspective sketch unfortunately mars this otherwise good set, and would have been better omitted; in many places it is out of drawing, and does not do justice to this well-known building.

Hampton Court Palace has again attracted a student, and "Lancastrian" sends in drawings of the Fountain Court. They are carefully rendered, but suffer from the rather indefinite freehand drawing and the manner in which the full-size details have been shaded.

The drawings of Heckington Church and St. Leonard's at Hythe, though most painstaking in every way, are somewhat lacking in vigour, and have not caught the spirit of mediæval work.

"Tyke" and "Cant Wara" also sent drawings of churches at Greenwich and St. Mary Woolnoth, but they hardly come up to the standard, and are somewhat thin and unconvincing.

In the sheets submitted of Thornton Abbey, in Lincolnshire, a singularly interesting subject, exactly the opposite effect is produced, for here the student has perhaps overdone the heaviness of his drawing; both joints and outline being indicated with the same strength an effect of confusion is produced, only the more emphasised by the weak delineation of the carving and sculpture. This is to be regretted, as the drawings made on the spot bear evidence of very careful study.

"Mediæval" submits a set of Crosby Hall, now being demolished. The details well explain the fine open-timbered roof and oriel window, and make us regret the destruction of such an interesting building.

It should be remembered that it is not only the finished drawings exhibited on the walls that have gained the prizes, but that to a large extent the Council have been influenced in their award by the original sketches and plottings made on the spot. This prize may be regarded as one of the most useful the Institute offers. It is essentially for the study of some complete building. The importance of such work should not be overlooked, for the knowledge gained by students who have mastered the design, planning, and detail of a building of recognised merit must be of great value.

THE PUGIN STUDENTSHIP.

There are no fewer than twelve candidates for the Pugin Studentship, and the work generally is extremely good. Mr. Sidney G. Follett carries off the prize with a fine series of drawings and sketches, crisp, clear, and explanatory. He sends measured details from West Walton Church, in Norfolk, and Warmington Church, in Northamptonshire, and charming

sketches from Linlithgow and Dunblane. The measured sketch of the lectern at Oundle, with all details shown, is quite typical of what an architectural sketch should be. He also sends admirable water-colour studies from Italy.

Mr. Winter Rose, who gains a prize of ten guineas, submits a large amount of work, with the exception of the measured front of Binham Abbey, chiefly sketches. Most of these are in colour, some very sympathetically and freely drawn.

An Honourable Mention is gained by Mr. Hadwen, who has done much admirable work in Yorkshire and Warwickshire. He sketches with a clean, bright touch, and evidently soon gets into sympathy with his subject. His measured work is also interesting, though it should be remembered that all jointing in masonry should be accurately shown.

Mr. A. D. Robinson sends a strong set of sketches and drawings of the Guild-Hall at Peterborough. He evidently is a powerful sketcher, but many of his pencil sketches are somewhat coarse, and seem to be too hurriedly done. Good drawings may be expected from Mr. Robinson in the future if he takes his sketching a little more seriously.

Much excellent work is shown by Mr. A. Welford, who has a delicate yet sympathetic touch, and the series of sketches and measured drawings he sends from the Cotswolds and elsewhere are very delightful.

Others whose work is to be commended are Mr. George Vey, with good studies from South Kensington Museum; Mr. J. B. Surman, with conscientious work from Wells and Glastonbury; and Mr. T. H. Whittaker, whose pencil sketches promise much for the future. Mr. H. M. Travers has a good eye for colour, a sketch of some old houses in Coutances being full of breadth and feeling, and he also draws the figure and sculpture with great freedom and delicacy.

I rather feel that a point to be borne in mind by competitors for the Pugin is that more attention should be given to the production of analytical studies and sketches rather than to pretty perspectives. The bold sketch, with detail vaguely suggested, is not of such ultimate value to the student as that which shows an attempt to get at the dry bones of the subject as well as the pictorial exterior. And also that, as this prize is essentially for the study of mediæval architecture, the work submitted for it should be more or less Gothic in character. Much of the work sent in cannot be classed under that head at all, though I am aware it is in accordance with the conditions.

THE OWEN JONES STUDENTSHIP.

We have next the Owen Jones Studentship, and for this the competition has been keen. Three sets of drawings were sent in, all of considerable and nearly equal merit. The studentship has been awarded to Mr. A. E. Martin, who shows most excellent work, treated on broad architectural lines, and showing a fine sense of colour and refinement. He sends complete studies made on the spot of Santa Maria del Popolo at Rome, showing the colour decoration of the entire church, with the beautiful painted ceiling over the choir by Pinturicchio drawn to a larger scale; drawings from Santa Maria del Fiore at Florence, fresco decoration from Assisi, sketches from Siena and many other parts of Italy, delightful decorative work from the Palazzo Cataldi at Genoa, and an original design in colour.

Mr. Matthew Dawson, who competed two years ago, is awarded the second place, and Mr. Rossé the third—the former exhibiting in his work a greater feeling for the use of colour, whilst the latter shows much ability in recording it.

Mr. Dawson's studies from the Ducal Palace at Venice and details from San Miniato and the Campanile at Florence are excellent, and show how this student has progressed in his work.

Mr. Rossé sends a series of conscientious drawings from South Kensington Museum and

also from his native country—Holland; but these, whilst exemplifying his versatility in the management of colour, hardly illustrate its combination with architecture as ornament, though doubtless with such ability as he possesses he will soon be able to apply it.

THE SOANE MEDALLION.

For this competition, a Customs House on a Quay, no fewer than twenty-eight designs have been submitted, and the studentship and 100*l.* have been awarded to Mr. George Drysdale.

Mr. Drysdale has arranged a simple straightforward plan, with a large central hall balanced with wings at the sides, approached through archways from the quay, and with exits on the town side – the whole scheme being carefully thought out and arranged. In his elevations a distinctly modern French treatment, Renaissance in character, has been very successfully employed. The design as a whole seems rather too much broken up in its masses; the central block, unless seen from some considerable distance, would be cut off by the projecting lower stories. The tower, although suggested in the conditions, seems out of place, and would be better omitted. The elevations and sections, and the details more particularly, are beautifully drawn and tinted with washes of colour.

An Hon. Mention is given to Mr. R. R. Prentice, who has a good symmetrical plan with a square hall entered through a portico divided into five bays by piers. The elevations are dignified and well conceived, but exception might be taken to breaking the continuity of the modillions in the main cornice over the window-heads. The tower is well designed.

Mr. Alan Binning, who also receives an Hon. Mention, sends a thoughtful scheme, distinctly clever and showing much ability; at the same time it produces a feeling of unnecessary weight, and seems more suggestive of a mausoleum than a customs house.

"Minerva" has a bold and striking composition, delineated with a set of excellent drawings well worked out; but the result, again, is not a customs house, but an hôtel de ville or casino of very florid character.

The design of "H.M.S." is decidedly pleasing, and is well illustrated by a good water-colour; but in this case the central dome has nothing to lead up to it, and rises from the flat roof without any base. It is a quiet and unpretentious building, in great contrast to some of the others.

A good symmetrical design is submitted by "Torus," but here, again, the author has treated it more on the lines of a town-hall. His half-inch elevation of part of the entrance front is a fine piece of draughtsmanship, and admirably shows the detail and character of the architecture.

I must not omit to mention the drawings of "Omega," who has a good symmetrical plan with elevations treated in Classic style, with columns and pilasters carried up through the two stories. The whole is forcibly grouped and illustrated by a strong set of drawings.

"Transire" has sacrificed the utility of his plan, which is straggling and lacks concentration, in order to get length into his elevations. These, however, are decidedly good, and show evidence of much careful deliberation and study. The long line of front is very strong and dignified.

"Scarabæus" sends a well-worked-out study based on the architecture of Holland in the seventeenth century. As an archæological record it is clever and interesting, and is admirably explained by beautiful drawings; but the plan lacks practicability, and the whole seems out of place to-day.

"Floreat," "Southern Cross," and "Bacino" are all worthy of mention, but time will not allow me to say more than that they resemble town-halls and palaces more than a customs house.

THE TITE PRIZE.

Mr. Drysdale, the winner of the Soane, is also the winner here, and he is to be congratulated most heartily on his double success. The subject, "An Open-air Theatre by a River," is a most charming and attractive one, and has brought out many excellent designs. Mr. Drysdale has a wonderful set of drawings, showing great power of draughtsmanship, his half-inch details especially with figure grouping being most admirably drawn. He has arranged his building on a wedge shaped plateau, rapidly descending to the stream—a plan, of course, that has been governed by the nature of the site – but on considering it as a whole, the composition of the entrance block at the upper end seems to overpower the lower or stage portion, though probably this may be due to the perspective drawing. The whole design is brilliantly conceived and well worthy the prize.

Mr. Anthony Barker carries off a Medal of Merit and ten guineas with a fine conception, having a great colonnade surrounding both theatre and forecourt. This tends rather to overwhelm the centre part, which seems somewhat dwarfed in consequence.

An Hon. Mention is awarded to Mr. T. L. Vesper, who has a good scheme, shown with admirable drawings. The large flights of steps from the ends of the main entrance corridor seem rather unnecessary, and I feel that the stage, auditorium, and gardens on either side are better designed than the entrance block, which hardly seems proportionate with them. The semicircular screen behind the stage is most charming, and admirably shown in the perspective view.

Mr. Alan Binning also gains an Hon. Mention with a picturesque plan and elevation. The wings on either side of the entrance block might with advantage be omitted, and the colonnaded screen at the back of the stage is too large in scale and dwarfs the auditorium.

"Tight" submits an immense conception: the towers carried up over the dressing-room wings on either side of the stage are overwhelming, and the whole effect is that of a massive and monumental edifice, which is not compatible with a building of this nature.

The picturesque building shown by "C Minor" has many good points, but he has missed one of the most charming effects by carrying a solid wall across the lower part of the stage at the back, and thus shutting out the vista of the river behind it.

"Mafie" has a building uncompromisingly severe in treatment, with a strong cornice carried entirely around it; but it misses the feeling of an open-air building, and seems merely to have had the roof lifted off.

THE GRISSELL PRIZE.

Mr. A. H. Markham, who wins the Grissell Prize, sends a dignified and simple scheme, admirably illustrated and carefully worked out. He has arranged a central staircase shaft, with four detached piers tied in below the circular water-tank, with a gallery above surrounding a cupola, the whole composition being most praiseworthy. There is no mistaking the utilitarian purpose of Mr. Markham's design, and though it might be possible to criticise some of the details, yet it is a thoroughly successful effort. "Delta" sends a strong design, lacking somewhat in grace in its uncompromising severity, and surmounted by a dome which seems somewhat out of place. The design, again, by "Stet," is too cast-iron-looking in treatment, and with its network of uprights and cross-braces is suggestive of a gasometer.

"Water Mark," on the other hand, entirely conceals the construction of his design by enclosing it in a massive square tower, which gives no clue to the octagonal plan within. "77" has a design of which the initial idea is somewhat similar to Mr. Markham's; but it is not worked out with the same skill, and it has, moreover, a fatal touch of *l'art nouveau* which seems singularly out of place in a structure of this sort.

THE GODWIN BURSARY.

The Godwin Medal and £65 have this year been awarded to Mr. A. H. Verstage. Three applications were received, and Mr. Allan ran very close to winning the prize. Mr. Verstage proposes to visit Paris for the purpose of studying some of the modern examples of building, especially where the employment of steel has influenced the planning, construction, and design.

THE ARTHUR CATES PRIZE.

I am sorry to see that only one competitor has entered for the Arthur Cates Prize. Considering that this is one of the valuable prizes offered by the Institute, it really is a matter of regret that there should be so little competition. Mr. Bryan Watson, to whom the £40 has been awarded, sends an excellent series of varied designs and drawings, amongst them being a measured detail of a bay of the Norwich Cloisters, with the vaulting carefully worked out. His coloured perspective of the Petit Trianon at Versailles hardly does the building justice.

THE HENRY SAXON SNELL PRIZE.

This is the first time the Henry Saxon Snell Prize has been awarded, and it is gratifying to see such a good result. No fewer than six competitors have sent in designs. The subject was a General Hospital for 200 beds in a provincial town, and when we consider the great amount of thought and labour expended in working it out, we cannot help feeling more than satisfied with the result.

This competition in its conception allows no airy flights into the realms of fancy, but hard, matter-of-fact, up-to-date planning on strictly scientific lines, and it is very pleasant to record that the Council are unanimous in awarding the prize to Mr. W. Milburn. His design shows a broad grasp of the practical details of hospital planning, and his arrangement of the various departments and wards is evidence that he has understood the problem and exhaustively studied the subject. His drawings show technical knowledge of detail and construction, and the whole scheme is one that in execution would be easy to work and control. The elevations are full of character and well thought out, boldly treated in brick and stone.

The other designs submitted it would be impossible to mention in detail, but generally they have hardly realised the conditions, and the plans lack concentration and are scattered in arrangement. Many of the competitors show a good knowledge of hospital requirements, but a comparison with the winning set of drawings will show where they have failed in other directions.

Mr. President, Ladies, and Gentlemen, this completes my review of the students' work, and I trust they will take what I have said in the same kindly spirit in which it is meant. It must be gratifying to those who have gained the prizes to feel that they have deserved them, but at the same time the unsuccessful students need not be disheartened, for it is not all the prize-winners in early life who achieve success thereafter.

VOTE OF THANKS FOR THE FOREGOING PAPERS.

The President, Mr. THOMAS E. COLLCUTT, in the Chair.

THE PRESIDENT, when calling upon Professor Lethaby for his Paper, mentioned that the usual practice was for the President to deliver the Annual Address to Students, and it had been his privilege to perform that duty last year. On considering the matter, however, at the opening of the current Session, he felt that in his Address last year he had rather exhausted his advice to the students, and that it would be wise and in all their interests to ask someone more in touch than he was with the forward educational movement to deliver the Address on the present occasion. He could not help taking credit to himself for a very happy inspiration in asking Professor Lethaby to fulfil a duty which would otherwise have been his.

Writing since the Meeting, the President states that he desires to express in the JOURNAL his grateful appreciation of Professor Lethaby's kindness in taking an onerous duty off his hands, and also his admiration of the brilliant and scholarly discourse with which the Professor had favoured the Institute.

MR. REGINALD BLOMFIELD, A.R.A. [*F.*], asked by the President to lead the discussion on the Addresses delivered to the Meeting, said that he would propose a vote of thanks with pleasure, but to lead the discussion was quite another thing, for he felt rather bewildered with the apposite criticism they had just heard from Mr. Dawber, which rather put out of one's head the extraordinarily suggestive Paper of Professor Lethaby. He should like to say how pleased he thought every one must be that Mr. Dawber could tell them that the students had made such a good show of work this year. Mr. Dawber had made some very sound criticisms, and seemed very well pleased with the work that had been submitted. As to Professor Lethaby's Paper, it seemed to him one of the most suggestive Papers he had heard for a good many years. He should like to have had an opportunity of reading it before he was called upon to propose the vote of thanks, because it was exceedingly difficult to follow the high train of thought that Professor Lethaby had put before them. He must say that Professor Lethaby had rather surprised him in treating Greek art—he would not say as a flash in the pan, but as a sort of brilliant efflorescence in a short space of years. He thought that was not historical as a matter of fact. Professor Lethaby was a very learned man, and when he said a thing he (Mr. Blomfield) was inclined to think he was probably right; but his *prima facie* impression was, not that Professor Lethaby was wrong, but that he had given them rather an erroneous impression, because Greek art was a very old affair indeed, and that beautiful and pure art of the time of Pericles was no sudden thing. In its prime it might have been a matter of, say, fifty years or so, but it was the result of many generations of development. Another point had occurred to him, and there, again, he felt great sympathy with Professor Lethaby—he was dealing with an abstruse range of subjects and at a high level, and it was quite impossible to cover the whole field that came into his subject—but all reference to Roman architecture or building had been omitted. To his (the speaker's) mind, Roman architecture was probably the most important legacy of antiquity, and they owed to the great Roman constructors more than they owed to anybody in the past. He rather expected from the line of country Professor Lethaby was taking that he would have said something about that; because, as far as he gathered the gist of the Paper, it was all tending up to the point that the reasonable and scientific treatment of building was the ultimate development of architecture. There was, he thought, a great deal that was very suggestive in Roman architecture that they ought to study—and he was sure that on this point Professor Lethaby agreed with him. With regard to their old and favourite question of proportions, Professor Lethaby had made some most suggestive and salutary remarks. He very rightly attacked the fetish that was made of abstract rules of proportion. As a fact those rules were *ex post facto* classifications, and the Greeks were not handicapped by any such rigid system. Where Vitruvius gave them so many diameters—where he gave them, say, 8½ or 9—one found at Segesta 5½ or 6, and there was no absolute rule on that point at all. That was a valuable bit of criticism which they all ought to bear in mind. With regard to the Professor's suggestion that the younger men should lay their heads together and see if they could not do something in the way of a step forward, he thought that one of the best things he had ever heard in that room. He did not agree with all the concluding remarks, for he did not think he would advise a student to dig and delve and make excavations, because he would be better occupied in measuring up a bit of steelwork than in grubbing about among earthworks; but he, and no doubt all his hearers, felt grateful to Professor Lethaby for this excellent suggestion that the young men should pull together in the advancement of architecture. He had

known Professor Lethaby for many years as one of their most brilliant and original thinkers, and the keynote of his life had been an intense enthusiasm for architecture. He therefore had much pleasure in proposing a vote of thanks to him.

SIR ASTON WEBB, R.A. [*F.*], said he seconded the vote of thanks with the greatest possible pleasure. He thought with Mr. Blomfield —Professor Blomfield perhaps he ought to say— that Professor Lethaby had always been one of their great thinkers, and there was nothing more useful amongst a working practical body of architects than to have some man who would give the time and trouble to think, and then come and give them the result in that room. Professor Lethaby had done that several times. He himself had not always quite agreed, but he was bound to say that after a time they found that what Professor Lethaby had thought to-day a great many others would think to-morrow. His Paper that evening was another of those occasions when one might not perhaps altogether agree. He (Sir Aston) was not an authority on Greek architecture and would not venture to express an opinion on Professor Lethaby's Address, but there was always a depth and originality about Professor Lethaby's suggestions which must make them all go home and think. In an Address to Students that was one of the most important things—and it would make not only the younger students think, but the older ones also. He entirely agreed as to the suggestion at the end of the Paper, and hoped that the young men would follow it up. He himself was rather a believer, not in cliques, but in coteries, in young men coming together and having meetings and talking things over amongst themselves; because, after all, it was very easy for older men to come and give advice, but they all knew that that advice was not always had regard to. To get together and talk over the problems amongst themselves, that was the vital thing that was likely to lead in the future to some advancement in architecture, and it was to their young men that they looked to take the next step. The elders had tried, and now it was for the young men to go one better, and the way to do that was to combine and see if there was not some line on which they could work, and work with enthusiasm. During the Gothic revival there was great enthusiasm, but after that died out he thought there had been rather a lack of a rallying-point round which enthusiasm could gather, and on a suggestion like that of Professor Lethaby young men should meet and decide what they would try to do among themselves so that some enthusiasm might again arise. It would then be the delight of the young men to work with each other and to work with enthusiasm for some definite aim which they really sincerely thought was the right and proper thing for them to carry out for the whole of their lives. He thought they could not thank Professor Lethaby too much for his suggestion. For Mr. Guy Dawber's Paper they were also extremely obliged. It was a great encouragement to young men to have a short notice of their work. It showed at any rate that it had not been overlooked, and that it had been appreciated. They had all been immensely struck this year by the enormous amount of painstaking and beautiful work that unfortunately had to go unrewarded as regards prizes, but certainly not unrewarded as regards the result to themselves. The students must have had a great deal of pleasure in doing it, and their elders had looked at their work with equal pleasure. For himself he never remembered a finer year of the Pugin Competition or any other; the drawings were most beautiful; they seemed to have carried drawing to the extreme of perfection, and not only the drawing, but they seemed to have entered into the delight and the spirit of the beautiful things they had drawn. He had the greatest possible pleasure in seconding the vote of thanks.

9, CONDUIT STREET, LONDON, W., *8th February* 1908.

CHRONICLE.

The President's "At Home."

Some two hundred and fifty members in all parts of the country accepted the President's invitation and were present at the "At Home" held at the Institute on Monday the 27th ult. On the walls of the rooms were hung the premiated drawings in the competitions for the current year's Prizes and Studentships. Seen apart from the crowded collection at the Alpine Club Galleries the drawings made an effective and interesting display, and the opportunity of viewing them at leisure under the happy conditions of the evening was manifestly appreciated.

The Prizes and Studentships 1908.

The Annual Exhibition of Drawings submitted in competition for the Prizes and Studentships in the gift of the Institute closed on Saturday the 1st inst. During the twelve days it was open to the public, the exhibition was visited by over sixteen hundred persons, a very considerable advance on any previous year. The Prizes were distributed by the President at the Meeting of the 3rd inst., when members were afforded the opportunity of inspecting the admirable work resulting from the tours of Mr. C. Gascoyne [*Owen Jones Student* 1906] and Mr. A. J. Margetson [*Pugin Student* 1907].

The Institute Silver Medal for Measured Drawings awarded this year was the first struck from the design recently presented to the Institute by Mr. George Frampton, R.A. [*H.A.*], and the President in handing it to the winner congratulated him on becoming the possessor of so beautiful a work of art. A photographic reproduction of the Medal was given in the JOURNAL for 9th November last.

With reference to the award of a Certificate of Hon. Mention and Five Guineas for the measured drawings of Cobham Hall, Kent, submitted under the motto "Cantii" [*see* Award, p. 205], which were afterwards found to be the joint production of two competitors, Messrs. Robert Tall and Thorold Bennett, the Council have decided to award a Certificate to each of the competitors and to divide the money prize between them. The Council, however, desire it to be understood that their concession on this occasion must not be taken as a precedent. In future competitions for the Institute Prizes joint work submitted under a single motto in this way will disqualify the authors altogether. This rule is to be incorporated in the Conditions published in the Prizes pamphlet.

The New Secretary R.I.B.A.

At the General Meeting last Monday the President announced that the Council had appointed Mr. G. Ian MacAlister, B.A.Oxon., to the post of Secretary of the Institute, vacant through the resignation of Mr. W. J. Locke.

For the information of members it may be mentioned that, in response to the advertisement which appeared in the leading newspapers and architectural journals, applications for the post were received to the number of 123. The task of selection was referred to a committee of the Council, assisted by two Past Presidents, Sir Aston Webb, R.A., and Mr. John Belcher, A.R.A. After holding four meetings and interviewing several of the candidates, Mr. MacAlister was finally chosen, and the selection was unanimously approved at a full meeting of the Council on the 3rd inst.

Mr. MacAlister, who was an Exhibitioner in Modern History of Merton College, Oxford, graduated with honours in Classics and Literae Humaniores in 1901. After leaving Oxford he served for two years as Secretary and Aide-de-Camp on the staff of Major-General the Earl of Dundonald during his command of the Canadian Forces. Since his return to England he has been engaged in literary and journalistic work.

The new Secretary is to enter upon his duties immediately.

Design for the New County Hall.

The Establishment Committee of the London County Council report that the three Assessors appointed to act in the final stage of the competition for designs for the New County Hall have submitted their report on the result. They state that the twenty-three designs submitted by competitors in the final stage were illustrated by 346 drawings, and they have unanimously selected the design submitted by Mr. Ralph Knott. "This," says the report, "is a forcible and artistic suggestion which conveys to us the purpose for which it is to be erected, and is almost entirely without costly and unnecessary features; moreover, we are of opinion that the estimated cost is a fair one, and that the building could probably be erected within the sum named in instruction No. 34. While making this award we wish to record our opinion that the great projection of the centre portion of the river front requires modification,

and that the fine flight of steps into the river beyond the face of the Embankment wall, described as 'undesirable' in the replies to competitors' questions, should be omitted, as, indeed, the author in his report himself suggests. There are other points in the plan that require modification, but the brilliant qualities of the design far outweigh, in our opinion, these and other comparatively unimportant defects."

The drawings will be open to public inspection during the week commencing 7th February, between the hours of 10 a.m. and 8 p.m.

Mr. Ralph Knott was educated at the City of London School, served his articles with Messrs. Woodd & Ainslie, and was afterwards assistant in the office of Sir Aston Webb, R.A.

Architects and the Prevention of Corruption Act 1906: Counsel's Opinion.

The following questions on points affecting architects in relation to the Corrupt Practices Act 1906 were formulated by a firm of solicitors acting under the instructions of Mr. J. Alfred Gotch [*F.*], of Kettering, and were submitted by the Council of the Institute for the opinion of Mr. W. O. Danckwerts, K.C. Mr. Gotch states that his aim was to have the case presented mainly from the point of view of the country architect. The learned Counsel's opinion, which bears date the 12th July 1907, is appended below printed in italics.

QUESTION 1.—Does an Architect by acting also as Quantity Surveyor, and being paid by the Contractor as stated in the summary without having informed the Building Owner, render himself liable to prosecution under the Prevention of Corruption Act 1906?

ANSWER.—*He does not. In order that an offence may be committed the thing must be done corruptly, and merely doing honestly what is indicated by the question is not corrupt.*

QUESTION 2.—Does an Architect, acting also as Quantity Surveyor, who puts into the Bill of Quantities without informing the Building Owner a sum of money to be paid to him by the Contractor for printers' and lithographers' charges for printing the Bill of Quantities render himself liable to prosecution under the Act?

ANSWER.—*The same answer applies to this Question as to Question* 1.

QUESTION 3.—Does an Architect, acting also as Quantity Surveyor, by charging remuneration for revising the Bill of Quantities where there is a variation in the works without informing the Building Owner render himself liable under the Act?

ANSWER.—*The same answer applies to this Question as to Question* 1.

QUESTION 4.—Does an Architect who puts in the Bill of Quantities a sum of money to be paid to him by the Contractor for copies of Drawings other than the first set without informing the Building Owner render himself similarly liable?

ANSWER.—*The answer applies here also. But I should point out that under the forms herewith the cost of these should be borne by the Builder.*

In my opinion the system of charging the Employer through the Builder for Bills of Quantities is not a commendable one, because it is calculated to mislead the Employer if not to conceal the fact of payment from him. The better practice would be for the Architect to get his pay direct from the Employer.

Eighth International Congress of Architects, Vienna.

The Programme of the Congress to be held in Vienna from the 18th to the 24th May next, under the auspices of the Austrian Committee and the leading architectural societies in Vienna, has been received, and steps are being taken by the Institute for the distribution of copies among the architects of the United Kingdom. The organisation and general arrangements are much on the lines of the London meeting of the Congress in 1906. The subscription for members is 25 kronen (a krone being equivalent to about a franc); for lady members, 15 kronen.

Members of the Congress are invited to the official opening in the Imperial and Royal Castle, to the fête given by the Imperial Court, to the municipal reception at the Town Hall, to the "rout" at the Kunstlerhaus, and to the evening banquet at the Kahlenberg to be given by the Austrian Society of Civil Engineers and Architects; also to the official opening of the International Architectural Exhibition. Members will have the right of attending the various visits and excursions and the farewell banquet on payment of the necessary charges.

The following subjects will be submitted for deliberation:—

1. Regulation of the Cultivation of Art by the State. The Executive Committee propose to move "That State Administrations should be urgently requested to establish special Secretaries of State, or at least suitable Departments, for the Fine Arts. Prominent artists should be associated with these Secretaries or Departments. As architecture must be regarded as the leader of the Fine Arts, architects should be represented on these bodies in the majority. The duty of the Secretaries or Departments should be the promotion and care of the Fine Arts in every branch."

2. Architectural Copyright and the Ownership of Drawings.

3. Regulation of International Architectural

Competitions. The Permanent Committee will present a Report on this subject.

4. Legal Qualifications and Government Certifying of Architects.

5. Conservation of Public Architectural Monuments.

6. Concerning Reinforced Concrete Buildings.

The Executive Committee invite written expressions of opinion with regard to the resolution concerning Subject I.—either short communications indicating acquiescence or more detailed Papers—by the 15th March at latest. At the first principal meeting of the Congress the result of these opinions will be brought forward and discussed.

A referee is to be appointed for each of the remaining subjects with a view to presenting to the Congress a uniform digest of the Papers sent in.

The following lectures will be delivered :—

1. The Influence of Modern Art in the Sphere of Architecture, by Karl König.

2. The Influence of the Historic Styles of Architecture on the Development of New Styles, by Leopold Bauer.

3. The Building Laws of Berlin, London, Paris, Rome, and Vienna, and their influence on the architectural form of dwelling-houses and the appearance of the city, by Karl Mayreder.

4. The Photometric Survey of Architectural Monuments, by Dr. A. Meydenbauer.

5. The Architect's Copyright in his Designs, by Dr. Sandor Erös.

6. Town Planning in Germany in the Middle Ages and at the Present Time, by Bodo Ebhard.

Papers submitted to the Congress must be in either German, English, French, or Italian. The abstracts will be given in all four languages.

An International Architectural Exhibition will be opened in the "Gartenbau-Gesellschaft" in the city, and will be accessible to the public for four weeks from the opening of the Congress. Members will have the right of free admission.

The President of the Congress is Herr Otto Wagner, and the Secretary Herr F. F. von Krauss, of Eschenbachgasse 9, Vienna I.

Crosby Hall.

At the meeting of the London County Council last Tuesday the Local Government Committee reported at length the circumstances which had led to the abandonment of the scheme for the preservation of Crosby Hall, and recommended that the reference to the Committee to deal with the matter should be discharged.

Sir J. Benn, M.P., thought the Council might well pause to shed one tear over Crosby Hall. The Council had done their little best—not much, perhaps—but that little had been unsuccessful. He moved to add to the recommendation an expression of the Council's regret that the City Companies had not taken measures to save from destruction such an historic monument as Crosby Hall.

Mr. Stuart Sankey said that some people thought that Crosby Hall was not a building on which a very large sum of money should be spent. It had constantly been modernised, and a portion of it was affected with dry-rot. If the Council had voted a large sum of money for preserving it they would be met with the cry that they were taking it out of the mouths of starving children. Unjust remarks had been made about the City Companies, who had out of their funds contributed most liberally to the preservation fund.

Sir R. M. Beachcroft thought the City Companies could do, and did, more good with their money in the direction of education than in preserving ancient buildings.

Colonel Probyn was of opinion that they might yet consider a scheme for moving this ancient hall to some other site, and making it a permanent museum, after the style of the Cluny Museum in Paris. There was a good illustration of this in London since Hyde Park Corner was actually to be transported from one side of the street to the other.

Mr. Ernest Gray (Chairman of the Committee) declared that all concerned had exhausted every effort to save this hall. He could hardly see why the City Companies should be made the scapegoat in this matter. If the mover of the amendment would substitute for "City Companies" the word "Government" he would be prepared to support it. The Government had both the power and the money to deal with this subject, and there was no reason why this building should not have been preserved as a national monument.

On a division the amendment was rejected by 72 votes to 38. The recommendation of the Committee was then adopted.

Vanishing London.

To the Editor JOURNAL R.I.B.A.,—

SIR,—The wide interest which has been displayed in the fate of Crosby Hall makes the present a fitting occasion to bring once more before the London public the crying need for a full and comprehensive record of the historic buildings which still exist within and around our great city. The undersigned, members and supporters of the Committee for the Survey of the Memorials of Greater London, therefore, on behalf of the general body of the Committee's members and well-wishers, desire to make an earnest appeal for assistance in their work.

The Committee's work is well known. During thirteen years there has been collected a large mass of material, mainly by the voluntary work of members, and from this have been prepared seven valuable monographs on such buildings as the Trinity Hospital, Mile End; the churches of

Stratford-le-Bow and Stepney; Bromley Palace; the Great House, Leyton, &c., besides the surveys of the complete parishes of Bromley-by-Bow and Chelsea, the latter of which is in active preparation.

The historical value of these monographs cannot be over-estimated, since they not only present a carefully verified account of the persons and incidents connected with the past existence of each building, but give also a complete architectural record of the fabric itself by means of elaborate drawings and photographs. During the whole period of the movement in favour of the preservation of Crosby Hall the Committee have been pursuing this most important work in regard to this building, and the public may expect this month to be in possession of the result of their labours in the form of their ninth monograph.

The voluntary work of the "active" section has enabled the Committee to publish these volumes in an expensive and tasteful form, befitting their character as permanent records, and yet to offer them to the public at a comparatively low price. It is clear, however, that these gratuitous services must be seconded by the practical support of a larger roll of subscribing members than has hitherto been available. The Committee therefore confidently appeal to the public to join their ranks and to participate in the preparation of a work which shall be worthy of London.

The Committee, in issuing now the complete monograph on Crosby Hall, which is illustrated by reproductions of old prints and a splendid series of modern drawings of the Hall, only just completed, wish to call attention to the fact that copies of any publications issued by them are presented first to all their members.

Persons wishing either to subscribe to this particular monograph or to become regular supporters of the Committee are requested to communicate with the secretary, Mr. Percy Lovell, Parliament Chambers, Great Smith Street, S.W.—We are, yours obediently,

Ripon.	W. D. Caröe.
Mary C. Lovelace.	Walter Crane.
Monkswell.	W. J. Hardy.
Curzon.	Philip Norman.
Balcarres.	

The late E. L. Galizia [*F.*].

Emmanuel Lewis Galizia, M.Inst.C.E., Kt. Medj., Kt. of St. Gregory the Great, who died on the 6th May last in his seventy-sixth year, was elected Fellow of the Institute in 1888. He joined the Civil Service of Malta in the Public Works Department in 1846, and received various promotions, until he was created the first Superintendent of Public Works with a seat on the Executive and Legislative Council of the Government.

Besides various engineering works comprising the Grand Harbour extension, he carried out several architectural works, notably the "Addolorata Cemetery," built in the Gothic style. He planned and carried out the Mahomedan Cemetery, for which the late Sultan Abdul Aziz created him Kt. Medj. Several churches in the island were built from his designs, and in consideration of his work in this direction Pope Leo XIII. conferred upon him the honour of knighthood of St. Gregory the Great. His last work was the Technical Institute—built in the classic style—near Valletta.

During his period of service he carried out a complete survey and made a set of record and descriptive plans of all Government property in Malta. He was on two occasions commissioned by the Imperial Government to visit Cyprus, soon after the British occupation, to report on its possible colonisation. He was a member of the University board for examination of candidates for the profession of architects, Consulting Engineer to the Medical Board, and President of the local commission for the Colonial and Indian Exhibition in 1886.

Valletta, Malta. G. H. Galizia.

Some Grinling Gibbons Carving.

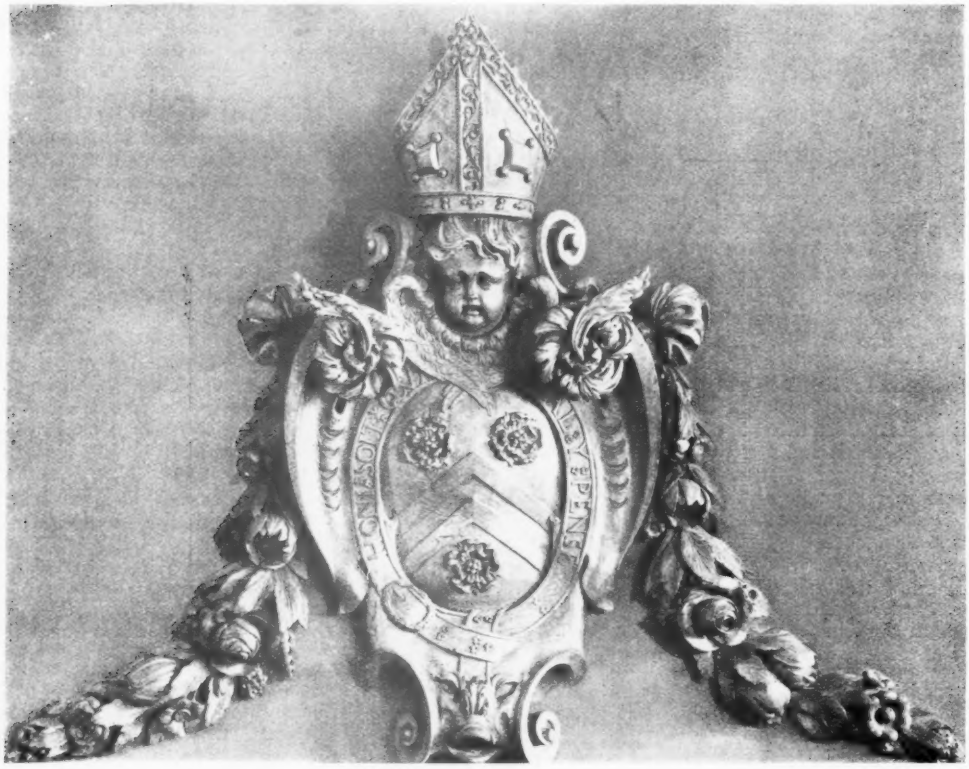
At the General Meeting last Monday the President directed the attention of members to a very fine piece of carving by Grinling Gibbons hanging over the screen in the Meeting-room, which has been very kindly lent to the Institute by the owner, Mr. George Hubbard, F.S.A. [*F.*]. This admirable specimen of the great master's work represents the arms of Winchester College, and it formed part of the beautiful panelling which used to decorate the chancel of Winchester College Chapel. The piece itself is represented below, and by the courtesy of Mr. Hubbard we are able to illustrate some other parts of the work.

In a letter addressed to the Editor Mr. Hubbard says:—

"The carving at Winchester College was executed by Grinling Gibbons in the year 1660. Perhaps a few words in connection with this interesting work may be acceptable. I quote from a letter in my possession dated 15th February 1898, written by the Bishop of Southwark to Lord Heytesbury, in which the Bishop says the following is its history:—

"'During the great revolution the College Chapel was much mutilated, but on the Restoration its panelled work was erected in severe taste, but by the best procurable workmanship, and there it remained the glory of the place until the Gothic craze possessed the authorities and it was turned out about 1865 and passed into my hands.'

"Prior to its removal the chancel of the chapel was richly panelled with an abundance of Grinling Gibbons carving. The east end was further



GRINLING GIBBONS' CARVING: ARMS OF WINCHESTER COLLEGE, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.
The original position of the arms is shown in the illustration opposite.
Lent by the owner, Mr. George Hubbard, F.S.A. [F.], to the Institute, and now on view in the Library.

decorated by four three-quarter pillars with Ionic caps with swags, and between the pillars was a picture of the Annunciation by Lemoine.

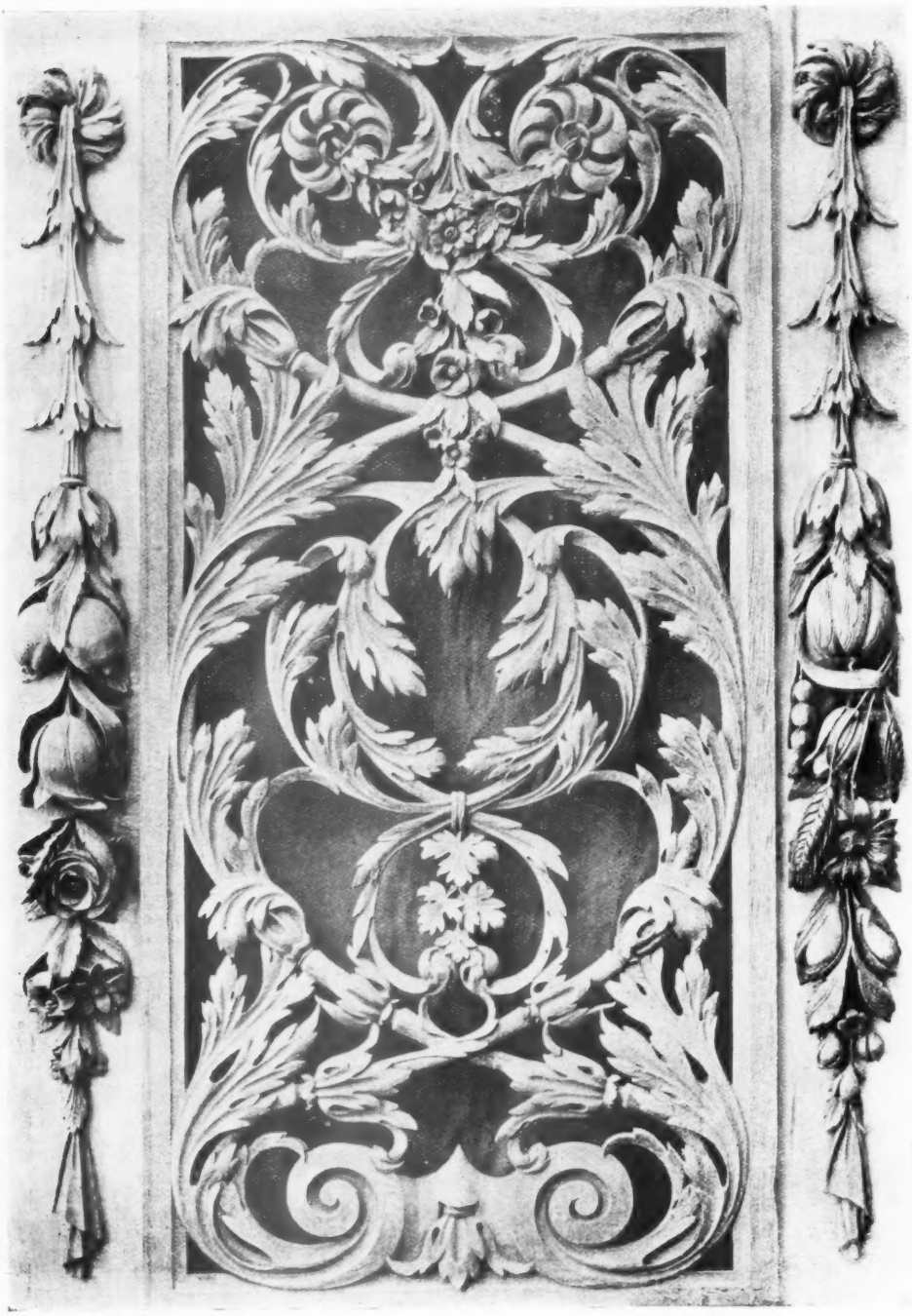
"It was an unfortunate period in the history of architecture when the Gothic revival was in vogue and the beauty of Renaissance work was not appreciated. The action of our predecessors must not be judged too hardly by present-day standards; but it is a matter of extreme regret that all this lovely carving by the master hand of Grinling Gibbons should have been discarded by Mr. Butterfield and the Governors of Winchester College in the year 1865.

"In 1898 the late Lord Heytesbury saw the carving and purchased it from the Bishop. Lord Heytesbury had it removed to Heytesbury in Wiltshire, where it was stored in his laundry, and it was from this quarter that my partner Mr. Albert W. Moore and I rescued it. The bulk of the carving now adorns Sir George Cooper's house at Hurstley, near Winchester. The Arms of Winchester College were not, however, acquired by Sir G. Cooper; undoubtedly their ultimate resting place should be in the chapel of Winchester College.

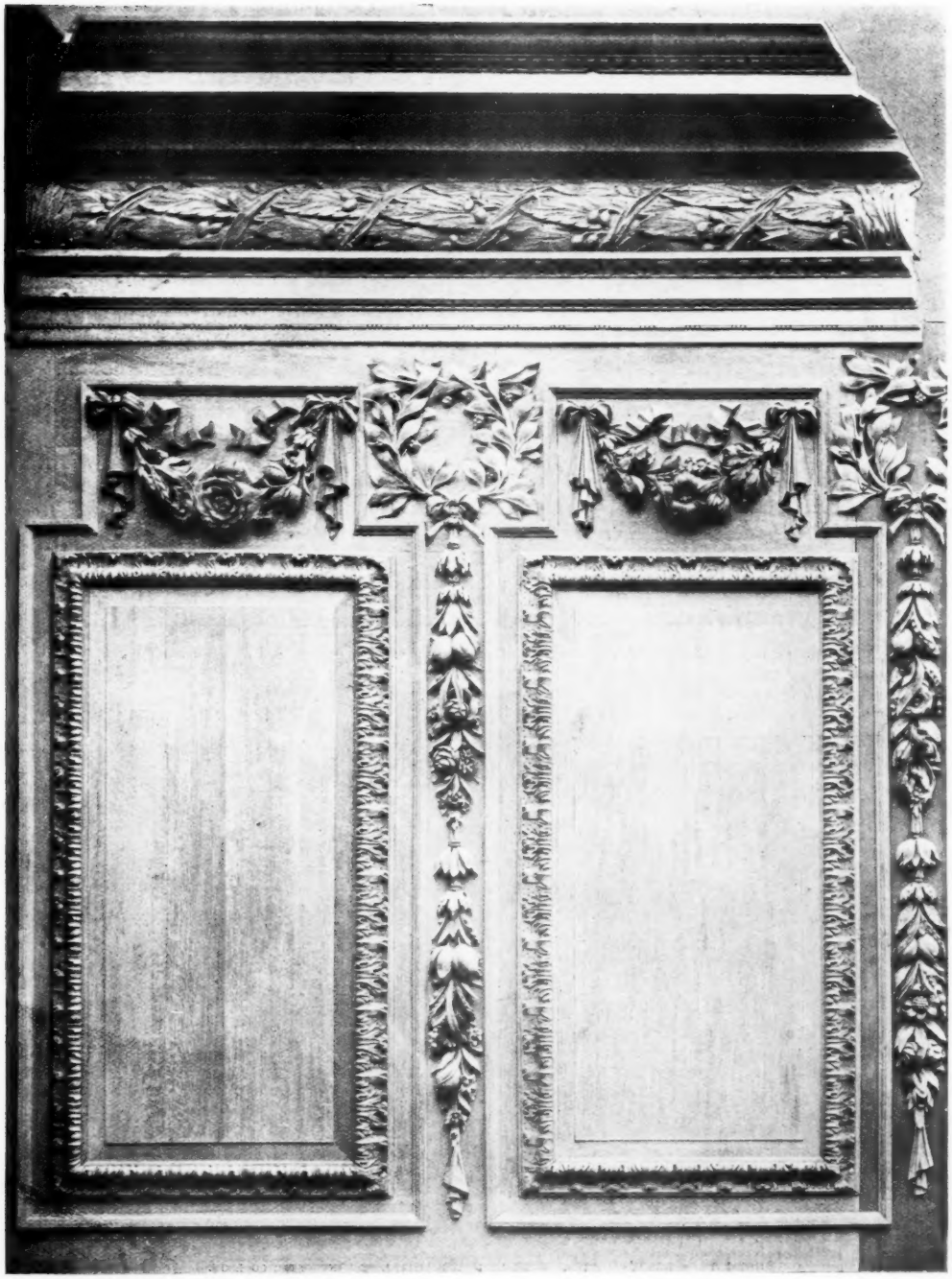
"The illustration of one of the panels in the screen across the ante-chapel is perhaps one of the finest designs ever conceived and executed, and students would do well to examine the harmony of all the lines in its composition. A study of this will appeal to every artistic nature, and it puts to shame the sad and sickly lines which are the foundations of *l'art nouveau*. In the floral swags and drops Grinling Gibbons appears to have been satisfied by faithfully copying nature without attempting to add or deduct from it; he grouped his floral subjects and reproduced them in their natural size.

"The charm of this work is enhanced by the fact that it appears never to have been oiled or stained, and like all old oak work it has a silvery, ashy greyness in its old age, and not a blackened surface which is usually assumed."

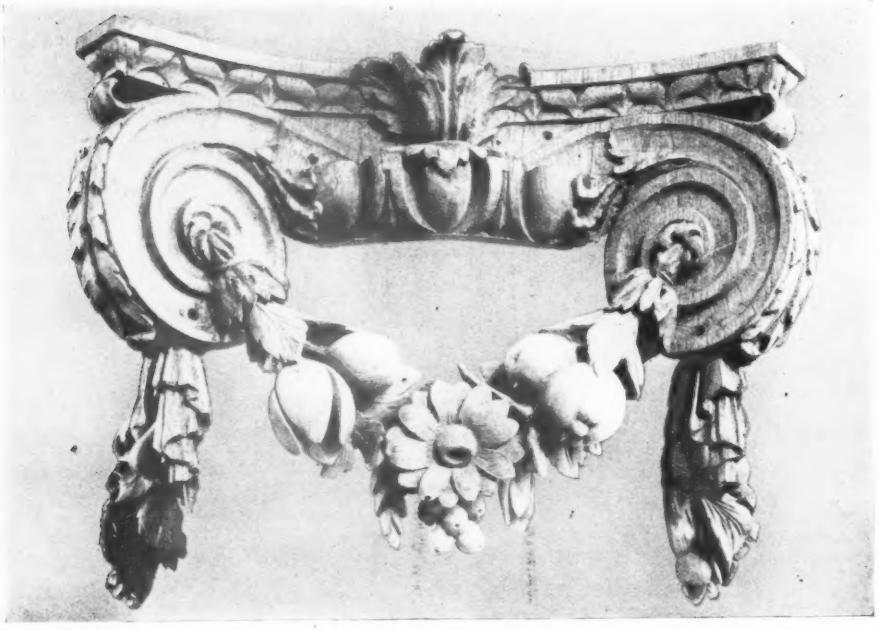
A PORTION OF THE ANTE-CHAPEL SCREEN, CARVED BY GRINLING GIBBONS, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.



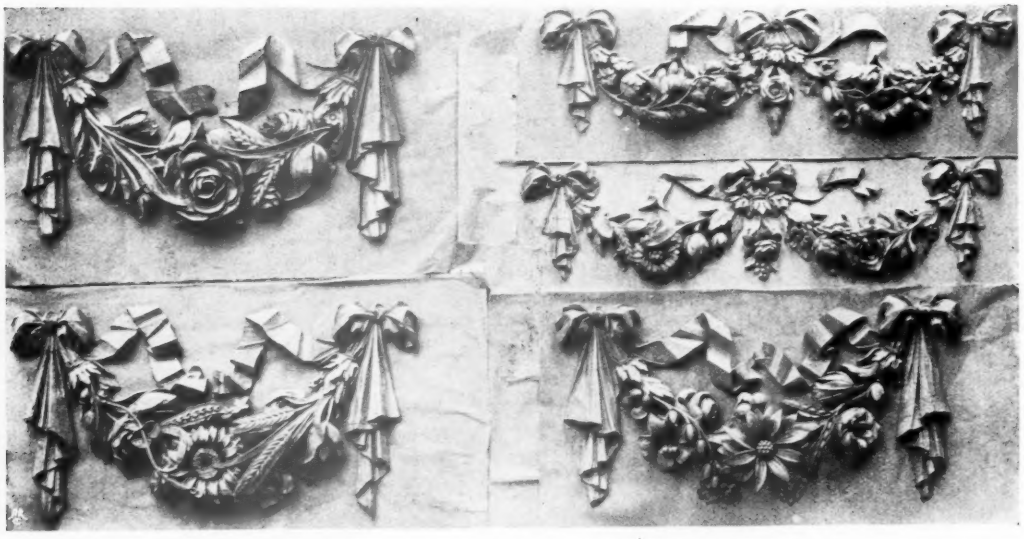
ONE OF SIX PANELS, BY GRINLING GIBBONS, FORMERLY IN THE ANTE-CHAPEL SCREEN OF THE CHAPEL OF WINCHESTER COLLEGE.



UPPER WALL PANELS SHOWING GRINLING GIBBONS' CARVING, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.



IONIC CAPITAL OF ONE OF THE THREE-QUARTER COLUMNS, FORMERLY AT THE EAST END OF THE CHAPEL OF WINCHESTER COLLEGE. CARVED BY GRINLING GIBBONS.



GRINLING GIBBONS' CARVING, FORMERLY IN THE CHAPEL OF WINCHESTER COLLEGE.

The Proposed Diploma in Architecture at Cambridge.

The Times of the 27th ult. published the following communication from Mr. T. G. Jackson, R.A., representative of the Royal Academy on the Board of Architectural Education, Mr. Reginald Blomfield, A.R.A., one of the Secretaries, and Mr. Basil Champneys, Vice-Chairman of the Board :—

The *Cambridge University Reporter* of 10th December 1907 gives the report of the syndicate appointed in June 1907 to consider the desirability of instituting in the University a diploma in architecture. The report will somewhat surprise those who are familiar with the theory and practice of the art of architecture. After a preliminary reference to existing provisions for architectural training, the report goes on to state that the education of architects in this country is in an unsatisfactory condition, that the principle of apprenticeship is on the wane, and that "a sound general education on liberal lines is the greatest *desideratum*, supplemented by special instruction in the principles of construction, in history, and in art."

Of these three statements the first two are open to very grave question. The training of architects in this country has been reorganised in the last few years by architects themselves, and so far from the principle of apprenticeship being on the wane, it is recognised by all architects as an essential part of an architect's training, following on his two years' preliminary course in the technical school. But the vital issue lies in the third statement, that "a sound general education on liberal lines is the greatest *desideratum*." We cordially welcome this statement of a very important principle ; but the syndicate has no sooner laid it down in very handsome terms than it incontinently turns its back on it. On examining the proposed scheme, we find that this special examination for the ordinary B.A. degree is to be in two parts. Part I. is purely technical (practical mathematics, applied mechanics, strength of materials, descriptive geometry, surveying) ; and Part II. is to consist of the history of architecture of Europe and the Near East, outlines of the general history of art, architecture, and the allied arts, subjects for an essay on a selected period, and the theory of art in relation to architectural design. The "sound general education on liberal lines" has simply disappeared; and as to the merits of the scheme as a course of special training, we would submit that it has all the defects and none of the advantages of the older system of architectural training which architects have themselves found it necessary to reorganise. It has not the advantage of the system of simple apprenticeship, which at any rate brought the student into touch with actual work under the supervision of professional architects; it has its defects, in that it relies on the venerable and much misapplied definition of architecture as a science and an art, and emphasises the cleavage by a rigid separation into applied science on the one hand and history on the other. All these elements, applied science, history, and archæology, enter into architecture, but they are not architecture. The syndicate appears to have overlooked the fact that architecture is, after all, the art of design, under severely limited conditions ; that it has its own peculiar technique, just as the arts of painting and sculpture have theirs, and that though it is very necessary for an architect to possess scientific knowledge of materials and of the laws that govern their use, the knowledge so acquired does not make him an architect. The quality of the architect, that which differentiates him from the engineer or from the professor of mechanics, is the imaginative use to which he puts his knowledge as an artist in pure form.

In our opinion (and we offer it as Oxford and Cambridge men and architects in practice) the proposed school will not answer the expectations of its advocates for the following reasons.

The difficulty which architects have to contend with in the training of their pupils is not the absence of preliminary technical training. Pupils can obtain this in the technical schools. The real difficulty lies in the fact that pupils, owing to their imperfect general education, do not know how to learn. Their faculties are not educated to the fine point which enables a well-equipped mind to seize at once on the essential points of a subject. The result is that students who have been so educated at school and college will catch up and pass pupils who have left school early in order to start at once on their special training. Architects of experience prefer a pupil with a good general education and no special training to a pupil with special training but imperfect education ; and we suggest that, in substituting special training for a liberal education, the University will not meet an educational want, but will greatly complicate the educational problem in relation to the professions by curtailing that "sound general education on liberal lines" which the syndicate itself admits to be "the greatest *desideratum*."

Architects have themselves been revising their methods of training, and the whole gist of such reforms as have been accomplished lies in the directly practical bias of the training given. The instructors are architects in practice, and the training is supplemented by practical demonstrations in workshops and buildings in the process of erection. How is this to be done in the University ? It can hardly provide the facilities for such training which exist in great cities, such as London, Liverpool, Manchester, or Birmingham, where the elaborate apparatus required is at hand and important buildings are constantly in progress.

It appears that the training proposed at Cambridge will be given by professors who will probably not be architects. Without the least desire to disparage their capacity, we would point out that, by the nature of the case, the training given in architecture will almost inevitably be amateur training. Surely this country, as compared, let us say, with France, has suffered too long from the views of the amateur on architecture. We cannot help feeling that, for purposes of training in the practice of architecture, the value of the proposed school at Cambridge will amount to nothing at all.

As to the utilitarian aspect of this scheme—that is, its likelihood of providing immediate employment for those who have passed its school—we submit that architects, after all, will have the principal voice in the training of their students ; and we submit that architects will require some more practical and thorough training in the technique of architecture before they will be prepared to offer paid employment. If this is so, an important reason for the establishment of the school falls to the ground. Parents and guardians will not find it any easier than before to obtain employment for the young men who have curtailed their education in order to anticipate their special training. The short cut will end in a *cul de sac*.

Lastly, we deprecate the proposed school not less in the interests of the Universities than of our own art. The proper function of a University, as we conceive

it, and the ideal, at all events till lately, pursued at Oxford and Cambridge, is to supply an education which will enable its graduates to approach their practical work in life from a higher standpoint, with a firmer grasp of its possibilities, and a clearer vision of its relations to life as a whole. So far, this tradition of education has worked with admirable success in English life. Professional men are not found to have lost in capacity and integrity by reason of their having received a liberal education. But even if it were not so, even if a liberal education handicapped a man in the race for wealth, we should still maintain that the advantages of such an education are, in themselves, its sufficient justification. Immediate success is not the sole and only aim of mental training, and it would be a matter of deep regret if there should be any ground for supposing that our older Universities so regarded it.

REVIEWS.

HOW TO ESTIMATE.

How to Estimate: being the Analysis of Builders' Prices, &c. By John T. Rea, F.S.I., Surveyor to the War Department. Third Edition, revised and enlarged. 8o. *Lond.* 1908. *Price* 7*s.* 6*d. net.* [*B. T. Batsford, 94 High Holborn, W.C.*]

This book, by Mr. J. T. Rea, which has reached a third edition, appeared originally as articles in the *Building News*. In the present edition much has been added, as one would expect, on the latest science, electricity, among other things showing how considerably contractors can save by using electric instead of steam power. This, like all other "costs," must, however, depend on locality and other conditions. "Thatcher" has also been added to the other trades, and the contents generally extended by some thirty pages.

The author does well to remind his readers that "there are no fixed standard prices . . . rates must always be built up in a natural way, according to the variable local conditions." And, further, "what may be right this week may be wrong next, owing to a sudden change in the market."

The statement that "prices of most building materials have gone up 20 to 30 per cent. in the last few years, chiefly through 'rings' and 'corners' creating artificial values," might be easily and successfully disputed. We have watched attempts at such corners lately—or rather their results—with some amusement. Copper, for instance, is quoted in this book as "£118 per ton for sheathing." To-day (22nd January) the market price is: "Tough and best selected, £68 to £68 10*s.*; strong sheets, £80."

Under "Actual Cost of Buildings," either in "per cube foot" or "per unit," the cost of buildings erected in 1876, 1888, 1893, or 1898 cannot be very useful except as curiosities. Except as history, the fact that Pentonville Prison cost, in 1840–42, £162 per cell is useless. Yet this is the only "prison" given. The latest "hospital" priced is 1903.

The index, as usual in books specially intended for reference, is sadly insufficient. For instance, if one wanted information about pedestal w.c.'s one would naturally turn to *Ped*, or of valve w.c.'s to *Val*, or of flushing cisterns to *Flu*. But in all these cases one would do it to no purpose. If one wanted a G.I. cylinder one would seek it in vain in the index, although one would find cylinder-copper there. But to one copper cylinder probably a thousand galvanised ones are used. Where so much good work has been done by the author, it is a pity that access to it is not made as easy as possible.

C. H. BRODIE.

MINUTES. VIII.

At the Seventh General Meeting (Ordinary) of the Session 1907–08, held Monday, 3rd February 1908, at 8 p.m.—Present: Mr. Thomas E. Collcutt, *President*, in the Chair, 39 Fellows (including 12 members of the Council), 45 Associates (including 12 members of the Council), and numerous visitors—the Minutes of the Meeting held 20th January 1908 [p. 212] were taken as read and signed as correct.

The following members attending for the first time since their election were formally admitted by the President, viz. Edwin Arthur Johnson, *Fellow*; Leonard William Edmonds, Henry Charles Brown, John Clifford Procter, Frederick Milton Harvey, and Leslie Wilkinson, *Associates*.

Mr. Edwin T. Hall, *Vice-President*, acting for the Hon. Secretary, absent through illness, announced the decease of John Barnes Colson, of Winchester, *Fellow*, elected 1892, and Emmanuel Lewis Galizia, of Malta, *Fellow*, elected 1888.

The President announced that the Council had appointed Mr. G. Ian MacAlister, B.A.Oxon., to the vacant Secretaryship.

The President announced that the Council proposed to submit to His Majesty the King the name of M. Honoré Daumet, Membre de l'Institut de France [*Hon. Corr. M. Paris*], as a fit recipient of the Royal Gold Medal 1908.

The President drew attention to a piece of Grinling Gibbons' carving hung in the Meeting-room, which had been kindly lent to the Institute by Mr. George Hubbard, F.S.A. [*F.*].

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election:—As FELLOWS (10): Henry Martineau Fletcher, M.A. Cantab.; Laurence Kirkpatrick Hall; Edward Mansell (Birmingham); Godfrey Pinkerton; Charles Henry Bourne Quennell; Winter Hargreaves Raffles; Thomas Robert Richards; William Gardner Rowan (Glasgow); Maxwell Maberly Smith, B.A.Cantab.; William B. Whitie (Glasgow). As ASSOCIATES (31)*: Annesley Harold Brownrigg [*Probationer* 1903, *Student* 1905]; William Thomas Clarke [*Probationer* 1901, *Student* 1904] (Liverpool); Vernon Constable [*Probationer* 1902, *Student* 1904] (Glasgow); Henry Ralph Crabb, Assoc. M.Inst.C.E. [*Probationer* 1901, *Student* 1901] (Birmingham); Joseph Berkeley Cubey [*Probationer* 1900, *Student* 1904] (c/o A. B. Plummer, Esq., Newcastle-upon-Tyne); Frank Donaldson [*Probationer* 1904, *Student* 1905] (Bishop Auckland); James Westbrook Farmer [*Probationer* 1899, *Student* 1903]; George Harry Bertram Gould [*Probationer* 1900, *Student* 1904] (Ipswich); Peter Kydd Hanton [*Probationer* 1905, *Student* 1906]; Edward Harold Waldegrave Harlock [*Special Examination*]; John Anstice Harrison [*Special Examination*] (Liverpool); Alfred John Healey [*Probationer* 1900, *Student* 1904]; Henry Leicester Hicks [*Probationer* 1902, *Student* 1905] (Newcastle-on-Tyne); Francis

* The candidates for Associateship passed the Qualifying Examination in either June or November of last year.

Henry Jones [*Special Examination*] (Buenos Aires); Allan Scott Millar [*Probationer* 1898, *Student* 1902]; Charles Percy Moss [*Probationer* 1897, *Student* 1901]; Stuart Mill Mould [*Probationer* 1894, *Student* 1897] (Newcastle-on-Tyne); Arnold Pearson [*Probationer* 1901, *Student* 1903]; Cecil Ross Pinsent [*Probationer* 1901, *Student* 1903]; Archibald Pursglove [*Probationer* 1901, *Student* 1904] (Manchester); Walter Adolphus Ritchie-Fallon [*Probationer* 1906, *Student* 1907]; Max Edward Stahl [*Probationer* 1903, *Student* 1904] (Weston-super-Mare); Leo Sylvester Sullivan [*Probationer* 1898, *Student* 1903]; Joseph Henry Taylor [*Probationer* 1899, *Student* 1901]; Gilbert Mackenzie Trench [*Probationer* 1901, *Student* 1904]; Cecil Trevithick [*Special Examination*] (Auckland, N.Z.); Percy Francis Warren [*Probationer* 1901, *Student* 1904] (Wrexham); Rowland Welch [*Special Examination*]; Gerald Berkeley Wills [*Probationer* 1902, *Student* 1905]; Charles Woodward [*Probationer* 1897, *Student* 1899]; Edward Lancelot Wren [*Probationer* 1901, *Student* 1904]. As HON. ASSOCIATES (2): Thomas Brock, R.A.; William John Locke, B.A.Cantab.

Professor W. R. Lethaby [*F.*] delivered an Address to Students on THE THEORY OF GREEK ARCHITECTURE.

Mr. E. Guy Dawber [*F.*] delivered a CRITICISM OF THE WORKS SUBMITTED FOR THE PRIZES AND STUDENTSHIPS 1908.

A vote of thanks to the authors of the Papers, moved by Mr. Reginald Blomfield, A.R.A. [*F.*], and seconded by Sir Aston Webb, R.A. [*F.*], was passed by acclamation.

The Presentation of Prizes was made by the President in accordance with the Deed of Award, and the Travelling Students present were introduced, as follows:—

INSTITUTE ESSAY MEDAL.

Medal of Merit to Mr. Percy Montague Stratton [*A.*].
Certificate of Hon. Mention to Mr. Henry H. Hill.

INSTITUTE MEASURED DRAWINGS MEDAL.

Measured Drawings Medal and cheque for £10. 10s. to Mr. Leslie Wilkinson [*A.*].
Certificate of Hon. Mention to Mr. Maurice Lyon.

SOANE MEDALLION.

Soane Medallion and cheque for £50 (1st moiety) to Mr. George Drysdale.
Certificate of Hon. Mention and cheque for £5. 5s. to Mr. Adrian Berrington.
Certificate of Hon. Mention and cheque for £5. 5s. to Mr. Robert Russell Prentice.

OWEN JONES STUDENTSHIP.

Owen Jones Certificate to Mr. A. E. Martin.

PUGIN STUDENTSHIP.

Mr. Sidney G. Follett introduced as successful Student.
Cheque for £10. 10s. to Mr. A. Winter Rose.
Certificate of Hon. Mention to Mr. N. W. Hadwen.

GODWIN BURSARY.

Mr. A. Halcrow Verstage [*A.*] introduced as successful Candidate.

TITE PRIZE.

Tite Certificate and cheque for £20 (1st instalment) to Mr. George Drysdale.
Medal of Merit and cheque for £10. 10s. to Mr. Anthony R. Barker.
Certificate of Hon. Mention to Mr. T. L. Vesper.
Certificate of Hon. Mention to Mr. Alan Binning.

ARTHUR CATES PRIZE.

Cheque for £42 to Mr. Bryan Watson [*A.*].

GRISSELL PRIZE.

Grissell Gold Medal and cheque for £10. 10s. to Mr. John H. Markham [*A.*].

HENRY SAXON SNELL PRIZE.

Mr. W. Milburn, jun., winner of the Prize, introduced.

ASHPITEL PRIZE.

Books value £10 to Mr. J. C. Procter.

The proceedings then closed, and the Meeting separated at 9.45 p.m.

ARCHITECTURE AS A FINE ART.

Address to the Birmingham Architectural Association.

By J. L. BALL, *President Birmingham A.A.*

THOSE who were present when I last had the privilege of addressing the Association may remember that, from want of time, I was compelled to break off the line of thought which we were pursuing at the most interesting point of our inquiry. I propose to resume the subject this evening, conscious though I am that it must suffer by being presented in two separate parts divided by a long interval. For the benefit of those who were not present on the former occasion, or who may have forgotten the conclusions at which we arrived, let me briefly recapitulate.

We began by considering some of the purposes for which this Association and other Architectural Societies exist. The most obvious of these purposes, and assuredly the most important to us, is the study and cultivation of Architecture as a Fine Art. I endeavoured, at some length, to define between Architecture and the Building Arts for two reasons: first, because the difference between them is fundamental and specific, a difference not of degree but of kind; and secondly, because many critics and exponents of Architecture have fallen into the mistake of confusing it with Building. I place the Arts of Building in the category of Craft Arts, all of which employ in common the method of handicraft. I place Architecture with Music, as Mathematical Arts, and I define the method or process which Architecture employs as Proportion. We then discussed the nature of Proportion as the medium through which Architecture attains certain results, and we left for future consideration the larger and more difficult question what those results are. What then are the impressions which Architecture seeks to produce upon the mind? What is the nature of its appeal to the imagination? Has this Art any purposes peculiar to itself? Can we define any of its aims? What is its relation to Building?—to Nature? When we stand in some great cathedral are we witnessing the triumph of handicraft alone, or can we distinguish elements which must be assigned to some other cause? Such are the questions which I hope to touch upon this evening.

It will enable us more easily to glide into our subject if I begin by noticing some objections to my former address which have reached me from different quarters. These objections, however various their form, really amount to two, a metaphysical objection and a practical objection, and we will consider them in that order.

The definition given of Architecture as a Mathematical Art operating solely by the medium of proportion evidently comes to many as a chilling surprise. Is there no room in this Art, they ask, for the play of the finer qualities of imagination

and emotion? Is Architecture really only a matter of Proportions, of Ratios, of Equations? Surely there is a mistake here. Either Architecture is something more than Proportion or it is not an Art at all, or at best a calculating, an unfeeling, a mechanic, Art. Those who reason thus have failed to perceive the necessary limits of the present inquiry. I have excluded, and shall continue to exclude, from it for the sake of clearness all metaphysics, all reference to the powers of the individual mind. I am looking at the whole matter objectively, in the light of history and experience, not subjectively, as a question of the exercise of this or that form of mental energy. I am surveying the nature, the process, the purposes, of Architecture from an historical standpoint, I am not discussing the temperament of the architect. It would of course be absurd to deny that all great work in Architecture has been done by men of extraordinary intellectual and imaginative powers. But assuredly the method by which those powers have operated, the medium so to speak in which they have been displayed, has been no other than Proportion. The greatest artists who have ever devoted themselves to Architecture—Michel Angelo, Wren, the cathedral builders—have had in this respect no advantage over ordinary men. They could use no other method in Architecture than Proportion, for the very good reason that Architecture is concerned exclusively with the infinite relations of abstract Form, and the relations of abstract Form are in fact nothing else than Proportion. It is most true that the use a man will make of his method, the results which he will achieve by means of Proportion, will depend upon his character, his genius. The man of more talents will obtain better results than the man of fewer talents, though they both employ the same process; the genius will always assert his superiority over the dunce. But it is not my intention to discuss the metaphysics of the subject.

It is another aspect of the same objection when it is said that Proportion, regarded as the sole method of Architecture, is altogether inadequate to the prodigious results attained in this Art. Is it credible that these images of sublimity and beauty should have been produced by a method so simple, so elementary, so commonplace? A great mediæval cathedral affects us profoundly; assign what you will of the impression it makes to craftsmanship, to delicate or fantastic ornament, to the sculptor's art, there yet remains a grandeur poorly accounted for by so feeble a talisman as Proportion. Such an objection is no doubt very natural. But is it not an objection which would apply with equal force to any of the Arts? Do not they all achieve extraordinary results by very simple and ordinary processes? In truth this contrast between methods and results is the perennial miracle of Art. The cutting and manipulation of stone and marble, for instance, is surely no very difficult or recondite process. Yet Polycleitus and Praxiteles needed no other to represent the symbolic effigies of the gods. Language, the use of suggestive or expressive words, is a very elementary acquirement. Yet it is by this medium, common to all mankind, that the poets express all the passions and emotions of the soul. Wordsworth and Shelley used just the same vocabulary which we use. If in place of a mediæval Cathedral we consider one of the most primitive of Architectural conceptions, the Egyptian Pyramid, we instantly perceive that the impression it conveys can be assigned to nothing else than to Proportion. An equal quantity of material disposed in another way might be utterly insignificant. The real truth is that in Architecture, as in most subjects, the great difficulty is, not to do it, but to do it well.

The practical objections are less easy to answer because they involve a reference not only to facts but also to the interpretation we put on facts. Some objectors who hold theories with which probably I have little sympathy are naturally surprised that those theories should be passed over without notice. But such persons should remember that on a subject like Architecture nobody can speak for all at once. If it had been necessary to controvert every theory of this Art which able and ingenious men have put forward you would not have had the patience to listen, nor probably should I have had the patience to speak. Others have fallen into the inexcusable mistake of supposing that I am actuated by a contempt of, or an indifference to, the Craft Arts; and that it is derogatory to regard Architecture as an Art of another kind than Building. The objection seems to me monstrous and unreasonable, and I hold, on the contrary, that it is of the utmost importance to both arts to mark precisely the difference between them. Others again profess inability to understand how one Art can be exhibited through, or in conjunction with, another and different Art, as Architecture is through or with the Building Art. Yet these same critics find no difficulty in understanding in a concert that the Art of Schubert or Beethoven is exhibited side by side with the different Art of Paderewski; or in a theatre that the Art of the Dramatic Poet is shown through the medium of the different Art of the Actor. And lastly, there are those who are unable to shake off the prepossession, popular at the moment, that Architecture is not an independent Art at all; that it is nothing more than an unpremeditated result, a something unconsciously or accidentally produced by fine Building; that it is altogether indefinite and indefinable, arising from the nature of the materials, from the necessities of convenience, from the necessities of structure, from custom and usage; that Proportion is nothing but a convention, a name for what we are accustomed to see; that utility, and in a wide sense the possibilities of construction, are the only things on which the architect ought properly to concentrate his attention. Now

if those who advocate this view put it forward as a proposal suited to our present needs, as a course of action which it may be wise for us to pursue under the peculiar circumstances of our own time, I have nothing to say. Such a proposal does not fall within the scope of a purely historical survey. But, on the other hand, if it is advanced as a statement of what has actually happened in the past, it is manifestly grotesque and incredible. The entire history of Architecture contradicts it. What evidence is there in the thirty centuries of historic Building that Architecture has been only an accidental product of utility, of material, of the necessities of structure, and the like? Even in speaking of the more primitive and elementary forms of Building, such as a farmhouse, a cottage, a barn, the statement would need serious qualification; while as applied to the greater works of Architecture, not only is there no evidence to support it, but all the evidence we have points the other way.

Material, and the necessities of structure! Is it to these causes that we are to assign the gigantic and spire-canopied towers of Salisbury and Old St. Paul's? Convenience and utility! Was it for such reasons that the vault over the choir of Beauvais was raised to a height of one hundred and fifty feet above the floor? Can anyone who knows the bare elements of the subject assert that the mediæval open-timbered roofs are the result of following the rules of carpentry and the nature of the material?—such roofs as those over the halls of Westminster, Eltham, and Hampton Court, with their simulation of arched structure, and of the traceries, the buttresses, and the cornices of masonry. Judged as specimens of structural carpentry and of the proper use of material these roofs must be condemned as obviously wrong; judged as parts of a great Architectural idea they may well seem to need no apology.

Let us look at the facts. Let us compare a Roman building of the fourth century and a monastery of the eleventh century. Both have existed together in these islands, and of both there are remains sufficient to enable us to conjecture their original forms. Why should two such buildings be so different? The conditions of climate, of materials, and in a general sense of construction and convenience, were much the same for both. What then is the reason of the prodigious difference between these two buildings, which, so far as materials, and usages, and the necessities of construction, are concerned, we might well have expected to be very similar? My answer is that the difference between them is a difference of Architecture.

Compare a typical English cathedral of the thirteenth century with one of those great churches which rose during the same period in Northern France. Compare Salisbury with Amiens. Here we have two buildings produced at about the same time, and under exactly similar conditions; the same materials, the same methods of construction, were used for both; both were intended for the same purpose, namely for the liturgies of the Mass. Are these two cathedrals, built under identical conditions, alike? On the contrary they are totally different. The difference between them is not a difference of purpose, or of materials, or of structural method. It is a difference of Proportion. In other words Salisbury and Amiens, while belonging to the same school of Building, belong to different schools of Architecture.

The Greek Architecture of the fifth century B.C. is familiar to everybody, and is universally celebrated for the finished excellence of its Proportions. Do we find any evidence in the remains of the famous Temples of this epoch that their justly admired Proportions were dictated by the nature of the material and by the necessities of structure? The columns of the Parthenon are six feet two inches in diameter, with a height of only thirty-four feet, and the spaces between them are little more than the diameter of a column. Are we to suppose that the Greeks did not know, or had not the intelligence to find out by simple experiment, that the Pentelic marble need not be used in so great masses? Observe that we are not speaking of a barbarous and ignorant people whose rude essays in building exhibit a vast bulk of material to atone for want of science and constructive skill. We are speaking of the Athenians of the age of Pericles, of the most polished and cultivated nation of antiquity at the supreme moment of their existence, of a people distinguished, as Matthew Arnold has finely said, by the qualities of "sense and intellect." No race of men has ever been gifted with an understanding so quick and sure, a temperament so sane and logical, as the Athenian people of that age, and their extraordinary achievements in several of the Arts, in Dramatic Poetry, for instance, and in Sculpture, remain unsurpassed after twenty-four centuries. At the time when Pericles rebuilt the Temples on the Acropolis which had been ruined in the Persian War Greek architecture had entirely passed the stage of experiment. To what conclusion, then, do we come? It would be ludicrous to suggest that Kallikrates and Ictinos did not know, as well as a modern engineer, that much smaller columns than those they actually employed would very easily support the slight superstructure of the Parthenon. To do so would be to attribute to those great men the ignorance and simplicity of an architectural student in the pupil stage. Can we doubt that the Architects of the Parthenon used columns of so large a diameter, and set them so closely together, not for reasons of structure, but for reasons of Proportion?

This argument, to anyone capable of weighing the evidence, is surely a very strong one, but it becomes much stronger when we proceed to compare the Dorian with the Ionian peristyle. The columns of the Ionic temples are of much smaller

diameter than those of the Doric, both in relation to height and in relation to the weight of the superincumbent entablature, and are separated by wider intervals. In other words, the Ionic colonnade as compared with the Doric shows a much smaller amount of material used to perform a much greater amount of work. Now if the Ionic had followed the Doric in chronological sequence, as in the Middle Ages the early Gothic followed the Norman, and if after the introduction of the Ionic method no more temples had been built in the Dorian manner, there would be some reason to suspect that the Proportions of the Greek temples were dictated merely by the exigencies, or the supposed exigencies, of construction, and that with increased science and greater familiarity with the material the later builders were enabled to carry out their purposes with more economy than the earlier. But this is not the case. The Dorian and Ionian models of Temple building were contemporaneous, not successive, and stood side by side, unaltered, throughout the whole period of Greek Art. We are therefore justified in concluding that their Proportions were fixed, not by the requirements of material or by the necessities of structure, but by very different considerations. The antique builders courted Architecture like a mistress, with lavish extravagance, and their extravagance is justified by the grand result of their Art.

We find then no reason to assign the Proportions of the Greek Temples either to the nature of the material or to the necessities of construction. Are we to attribute them to the influence of custom and tradition? Were the columns of the Parthenon and of the other Temples made so imposing merely because people had always been accustomed to see thick columns in the buildings of the archaic age? A conjecture of this kind is hardly probable of the enlightened contemporaries of Pericles, and would need to be supported by very definite evidence if it is to be received. Now of Greek architecture earlier than the fifth century B.C. we know very little that has any bearing on the subject under discussion. But we do know something. There are strong, indeed convincing, reasons to believe that the earlier Greek buildings were very generally of wood, and that buildings of masonry were comparatively rare. It is possible even in the perfect Doric Temple to trace many features which were obviously derived from a wooden prototype. But a wooden temple, however small, can hardly be imagined with the massive Proportions of the Parthenon. The nature of the material would make any approach to such Proportions impossible. Wooden construction is always, by its nature, slighter and less bulky than constructions of stone and marble. If it be admitted, then, that the prehistoric Architecture of Greece was largely a wooden architecture, it is difficult to understand how the massive Proportions of the Dorian Temple can have been much influenced by custom and tradition. Were they due to foreign influences? This is at least equally incredible in the case of the proudest and most self-sufficient people of antiquity, who despised all foreigners alike as barbarians. And when we look at the Greek peristyle as a whole does it suggest a well-fulfilled purpose of utility or convenience? If those lofty and shallow colonnades were intended to afford shelter from sun, wind, and rain, it must be admitted that they were very badly contrived for that end, and that half the height, and twice or thrice the projection, would be necessary for its adequate fulfilment.

These reflections, suggested by a cursory survey of the Greek Temple, would seem to indicate that the Proportions of these celebrated buildings are the result of premeditated Architectural design, and this conclusion is confirmed from two independent sources: first, from the buildings themselves, which, when submitted to precise measurement, reveal a system of delicately modulated Proportion; and secondly, from the scattered indications to be found in Greek Literature, slight and inconclusive perhaps, yet sufficient to show that the Greeks fully understood systematic Proportion and set a high value on it. Let us next take an instance from the mediæval world. Let us briefly consider the Gothic Architecture, as it is inexactly but conveniently called, from the twelfth century to the fifteenth. Let us analyse the proportions of the magnificent Cathedrals and Abbeys of this wonderful period, and ask ourselves whether they are to be attributed solely to the nature of the materials, to the necessities of convenience and of structure.

At the first glance the question seems to admit of but one answer. The evidence of constructive power in these great buildings is so obvious, so convincing, that it leaves no room in the mind for any other consideration. The entire structure is at once revealed, and impresses the most casual beholder as reasoned, logical, and coherent; every feature appears to be inevitable, or at least admirably contrived for a constructive purpose. To look here for calculated Proportion and Architectural design may well seem a perverted ingenuity or a love of paradox. In no buildings have the Arts of Architecture and of Building been carried to so high a degree of excellence, in none have they been so completely interfused, as in the great Gothic minsters. Nowhere has the art which conceals art been so admirably exemplified. There is an air of simplicity about the most elaborate of these buildings which imposes on us, and we only find out that they are inimitable when we try to imitate them.

The first thing that strikes us as we look at the whole course of Gothic Architecture is the number of surprising changes through which the Art ran from the twelfth to the fifteenth century. Many of these changes are evident to persons altogether unversed in archæology; while others, though recognised without difficulty by the antiquary, require

a more attentive observation. But all, whether more or less obvious, are well-marked and decisive revolutions, and not to be explained by caprice. How are we to account for these changes, for the change from the twelfth century to the thirteenth, from the thirteenth to the fourteenth, from the fourteenth to the fifteenth? There must have been a motive for them. If we assume the mediæval builders to have been wholly taken up with questions of material, of structure, of convenience, and the rest, we must then attribute these changes to a desire for better building, for a more appropriate use of material, or a more enduring structure, or greater convenience. Hence we shall be justified in expecting to find at each stage an improvement in the Building Arts. Do we however find any such improvement? Is it not a fact that, during the whole period under review, the Arts of Building maintained the same high and invariable level? In truth if we except small fluctuations, such as are inevitable in any widely spread Art, the standard of building excellence appears to have been remarkably uniform. A Chapel Royal of the fifteenth century is superbly built, but not more superbly built than an Abbey of the twelfth century. In a building of the twelfth century we see adaptation of material to purpose, power of structure, skill and dexterity of handicraft; and in a building of the fifteenth century we see no more, we see in fact precisely the same qualities. In the earlier example material is admirably disposed in one way, in the later it is admirably disposed in another way, but regarded as Building the one is exactly as good as the other. It is true, of course, that many extraordinary feats were performed in the later Gothic which would have been impossible in the earlier. But increased confidence and audacity are not quite the same as improved Building, and may even be incompatible with it. All through the mediæval period Building as a whole is distinguished by the same general excellence, the same skilful and scientific use of material, the same masterly instinct for structure, the same unrivalled skill of craftsmanship; and also it must be admitted that it is marked by the same defects, the same carelessness about foundations, about damp, heat, and cold, the same indifference to convenience, the same tendency to build thick walls of very inferior materials. The only improvements in the Art of Building which we can detect during this long period of about four hundred years are the general use of window glass, and the invention of fireplaces and chimneys. And window glass was introduced before the twelfth century, while fireplaces and chimneys did not become common until the sixteenth. In fact, the Building Arts in the Middle Ages, admirable though they are, show no progressive tendency; and it seems absurd therefore to attribute the marked changes which we see in the Cathedrals and Abbeys of this period to a desire for improved building, when there is no evidence that any improvement was desired, or that any resulted, from those changes. We see material used in a succession of different ways, all equally skilful and equally suitable, with no marked advance in the direction either of economy or of convenience. If we ascribe these changes in mediæval Building to Architectural design, to the desire for more magnificent, or at least, for different, Proportions, it is easy to understand them. But we can account for them in no other way.

When we look at a compartment of a great Gothic church with its system of piers and arches, with its stone vault sustained high above the ground, with its buttresses and flying buttresses and pinnacles, we are impressed by the skilful adaptation of each part to its purpose. But to what final purpose? What were the mediæval builders doing with those great vaults poised at a height at Amiens of one hundred and forty feet, and at Beauvais of one hundred and fifty-three feet, above the floor? Were these colossal Proportions, and others only less extravagant, suggested by the nature of materials, by use or convenience, by considerations of structure? Were they not obviously part of a system of Proportion which demanded almost unlimited height? Nay, we may go farther and ask what excuse can be given for the stone vault itself? Writers on mediæval Architecture seem to take the necessity of a stone vault for granted, to assume it as a postulate. But assuredly the stone vault cannot properly be regarded as a structural necessity. It is not a roof, it is a costly stone ceiling, of great weight, and of most difficult construction. It may be said that it is fireproof, but there is not a shred of evidence to show that the mediæval builders used it for that reason. As a fireproof construction the stone vault was generally either unnecessary or inadequate; unnecessary for the fire of a few benches or tapestries on the floor, perhaps one hundred feet below; inadequate as a protection from a fire in the roof, where the falling timbers seem invariably to have broken down the thin masonry. Stone vaults cannot really have been thought a necessity, because many churches, some of the first importance, have no vaulting; and others, as in Holland, have vaults of wood: a singular commentary, by the way, on the theory that Architecture is an accidental result of the proper use of material in construction. In truth the more we reflect upon the subject the more certain it appears that stone vaulting was used not because it was essential to the structure but because it was essential to the Architectural idea.

A tower may be regarded as necessary for the bells of a great church. But, surely, two, three, five, or more, towers cannot have been necessary for any other reason than a purely Architectural one, that is to say, for Symmetry, for Proportion. And to what rules either of convenience or of construction can the spires of those towers be

attributed? A tower needs of course a sufficient roof, but certainly no considerations of structure or of utility can have dictated those splendid and enormous objects, rising sometimes to a height of two hundred feet, or perhaps of two hundred and fifty feet, above the towers, difficult to build, difficult to keep in repair, and exposed to all the fury of the elements. And if this is true of the timber spires, what are we to say of the spires of masonry? Did those lofty hollow pyramids of stone, those roofs built up in horizontal courses of masons' work, and adorned with windows and traceries and buttresses, really originate from a study of the right use of material, from a fine sense of constructive propriety? Assuredly not. It is indeed impossible to deny that the stone spires are miracles of Building Art, but it is equally impossible to doubt that they owe their existence to Proportion, to Architectural premeditation. To say of such works that they are finely constructed is one thing, it is quite another to assert that construction dictated or suggested them.

Everybody will remember the most interesting and scholarly Paper last session in which Mr. Bidlake explained the development of the French cathedral plan, from the twelfth century to the fourteenth; how he showed that the plan of the clerestory, which in the twelfth century consisted of a continuous wall, pierced at intervals with small windows, became in the fourteenth century a series of gigantic piers, buttresses, and flying buttresses, with vast windows occupying the intervening spaces. Now if we compare these two plans from the standpoint of constructive fitness and the right use of material it is very evident that the later method has no advantage over the earlier. Both are excellent Building, but it would be difficult to show that, regarded only as construction, there is much to choose between them. What then was the purpose of this remarkable change of plan? Was it economy of material? The later plan absorbs as much material in the great piers and buttresses as the earlier required; probably indeed more. Was it economy of work? The supposition is ludicrous to anyone who has compared examples of the two. The explanation generally given is that the change was brought about by a desire for larger windows, and there is no doubt that this is, on the whole, the true explanation. But it was a desire for larger windows which had nothing in common with modern notions of convenience or sanitation. The mediæval artists did indeed desire larger windows, a more magnificent display of painted glass, more complex and harmonious traceries, nobler Proportions. In a word, this development of plan was prompted by Architectural motives.

Such reflections as these might be multiplied indefinitely. But enough perhaps has been said to show that the characteristic glories of Gothic Architecture cannot be explained as the unpremeditated results of excellence in Building, and that everywhere there is evidence of a conscious Architectural purpose. The whole truth about the mediæval artists will perhaps never be known. Between them and us there is a great gulf fixed, the purposes which animated them have ceased to influence the modern world. I have used the word economy. But the more we study mediæval Architecture the more confident we become that economy, whether of time or space, whether of material or of human work, was an idea altogether unknown to the builders of the Middle Ages. The modern conception of economic structure would probably have been unintelligible to them. The aim of the mediæval artists was not economic structure, a very different, an unattainable, purpose seems to have inspired them; nothing less indeed than to realise the very *Domus Dei*, the Porch of Heaven, the New Jerusalem, as it was pictured in the sublime language of *Saint John*. It is when men's minds are fired by grand ideals that Architecture flourishes; when these fade a slow deterioration sets in which can be best described in Burke's memorable words. The age of generous enthusiasm has been succeeded by that of "sophisters, economists, and calculators," and our prosaic and utilitarian Architecture has lost "the unbought grace of life."

We find, then, from this brief examination of the two greatest Schools of Architecture, an examination necessarily slight and imperfect, that considerations of material, of structure, of convenience, and the like, are altogether inadequate to explain the facts. Everywhere, if we look attentively, we perceive with more or less distinctness the evidences of a deliberate Architectural intention; and if I were asked to give a definition of Architecture from the point of view of history and experience I should offer this:—Architecture is something designed, over and above the strict necessities of Building. Let us assume this definition provisionally, and, taking up the main thread of our inquiry, let us endeavour to ascertain some of the purposes of Architecture, considered as a Fine Art. What functions does the Art fulfil?

At the outset we are confronted by two difficulties. First, the idea conveyed by the word *design*, as a conscious and deliberate act of the mind, is held by many to be repugnant to a proper conception of Art. This however is a metaphysical question, and all metaphysics are excluded from our present study. Probably the difference between conscious and unconscious Art has been exaggerated, or too trenchantly insisted on, by critics; or consciousness of artistic purpose has been confused with consciousness of self. To discriminate with any accuracy between what is conscious in Art and what is unconscious may well seem impossible. Is not all Art, excepting only the most primitive and archaic, in a greater or less degree self-conscious? Artlessness belongs only to the infancy of Art. All Art

is probably the outcome of a transient emotional mood, which the Artist endeavours to make permanent, and in so doing transmits to others. It seems superfluous to inquire whether he is conscious of it or not. Therefore in discussing the impressions which Architecture makes upon the mind we waive altogether for the moment the question of conscious intention.

The second difficulty is to give in words the meaning of any work of Art. It would be no easy task to explain in precise terms the meaning of a poem, say one of Shelley's. Yet Shelley's language, vague and elusive as it is, is definite compared with the shadowy dialect of Architecture. In truth if all human emotions could have been expressed directly by language it is possible that many of the Arts would never have existed. The office of each is to awaken sensibilities that can be affected through no other medium. I shall be wise therefore to confine myself to those qualities of Architectural design which are most obvious, and most capable of translation into words.

We will begin by considering two popular opinions on the subject. Many people of average culture take a genuine pleasure in Architecture. If we were to ask one of those persons whom we meet in the holiday season wandering in College quadrangle or Cathedral close what quality of Architecture it is that attracts him, we should probably be told that it is the quality of *picturesqueness*. Whether that were the precise answer or not, there can be no doubt that the word *picturesque* does express the charm of Architecture for very many people. A pictorial quality is required of Architecture, to be interesting it must be suitable to make a picture, or at least to take a principal part in a picture. And that Architecture does actually possess this attractive quality of picturesqueness needs no argument, for we find that the great Masters of nearly every School of Painting have shown a remarkable predilection for it. It is enough to mention the great Italian Schools, from Giotto to Veronese, and a hundred examples of this will instantly occur to everybody. Without going so far as to say that all the artists of that long and illustrious succession were in the habit of introducing Architecture in their compositions, it may be confidently asserted that the great majority of them evidently took a peculiar pleasure in doing so. They neglected no opportunity of associating Architecture with the sacred or heroic personages whom they painted. Giotto's angels hover among the pillars and arcades of a Gothic cloister; Veronese depicts the *Meeting of Alexander with the Family of Darius* in the court of a magnificent Roman or Venetian palace. Sometimes, of course, Architecture was required by the subject of the picture, more frequently it would seem to have been introduced for no other reason than the painter's pleasure in representing it. Instances are not wanting where the Architecture assumes an importance hardly secondary to that of the human subjects, as in Melozzo da Forli's well-known portrait group *Pope Sixtus the Fourth giving Audience*, where the Architecture is drawn from the Library of the Vatican.

It is worthy of remark that Architecture as painted by the Italian Masters of the thirteenth, fourteenth, and fifteenth centuries is, with rare exceptions, Architecture in a state of ideal perfection, unaffected by the accidents of time and of human revolutions. No weather stains, no crumbling arches or broken cornices, disfigure the symmetry of the Temple in Perugino's *Presentation of the Keys to Saint Peter*, and in Raffaelle's *Betrothal of the Virgin*. The taste for painting Architecture in a state of ruin and desolation, defaced by violence or neglect, belongs to the decadence of Italian Art. What the greater painters have required is an Architecture of the most perfect form, worthy to be associated with their ideal conceptions. The practice of the Italian Masters in this respect has been followed by the most eminent of later painters; by Turner, Watts, Leighton.

Time forbids any more detailed examination of the quality of picturesqueness, interesting as it would be. We can do no more now than note that Architecture may be expected to produce this pictorial effect, and proceed to a second popular opinion, namely that Architecture ought to convey the impression of size. There is no need to add much to what has previously been said on this subject in connection with Proportion. All size is relative, there is no such thing as absolute bigness. What Architecture does, or should do, by means of Proportion, is to give to any building, whatever its actual measurement, the impression of adequate size. By the right use of this Art a small building may be redeemed from insignificance, and a large one made to give its utmost expression. Is it not a fact that two buildings of the same, or nearly the same, real dimensions will often differ very considerably in the effect they produce in respect of size? And by what means can the impression of adequate size be conveyed but by Proportion? Building is concerned with actual measurements, such as are dictated by convenience or necessity. The impression of size is essentially an Architectural effect. Indeed this office of Architecture must be tolerably familiar to all of us, the student and the young architect especially are constantly occupied with the question how to make things look just the right size, and very much of our study of ancient Architecture is prompted by a desire to catch the secret of those subtle relations which can make even a small building impressive. But we cannot afford to spend any more time on these rather elementary conceptions of Architectural effect.

Let us pass to a more important topic, and ask ourselves what purpose Architecture fulfils in relation to construction. We are all agreed that

Architecture not vitally related to structure must be shocking and repulsive, and in fact can hardly be said to exist except as a mere affectation, a mask, a piece of stage scenery. That Architecture must stand in very close and intimate relation to building structure is one of the commonplaces familiar to everybody, but it is not perhaps equally well understood what that relation properly is. Architecture is a constructional Art; yes! but so also is Building a constructional Art. Good building is good construction; how, then, can Architecture be better? If it is the office of Building to construct it seems superfluous for Architecture to profess the same end. Everybody of course admits that Architecture must not falsify or contradict the actual facts of construction, but what purpose it fulfils besides this merely negative one is not so obvious. Architecture is a constructional Art, yet at the first glance its work seems to be anticipated by Building. A very little reflection however enables us to perceive that the two Arts perform entirely different functions, and that while Building is concerned with the facts of construction the purpose of Architecture is the expression of structural principles. In other words, while it is the function of Building to construct, the province of Architecture is the manifestation of structure, the exhibition or expression of structural ideas in more or less symbolic forms. It may happen, indeed it very generally does happen, that the real facts of construction are of necessity concealed, or partially concealed, in Building. The office of Architecture is, by emphasis or by suggestion, to reveal them. And more than this, our minds are so constituted that we take pleasure not only in the exhibition of structure but in the representation of familiar structural forms. This again is the province of Architecture, to embody structural ideas in forms which are not connected, or are only slightly connected, with the actual necessities of construction, and which in fact are little more than symbols of structure, the reiterated or variable expressions of a structural principle. Architecture is the art of constructional idea.

To illustrate this at all fully would require the history of Architecture. A very few instances however must suffice, and we will begin with an extremely simple one. A beam is required adequate to sustain a weight of wall or floor; the Building Art teaches us to solve this elementary problem of construction in the most direct manner. But we may suppose, and it is by no means an improbable supposition, that this fact of construction is necessarily hidden, or that by the nature of the case its significance cannot easily be perceived, or that from whatever cause it conveys no impression of constructive power. It is the province of Architecture by increasing the proportions, or the apparent proportions, of the beam, or by moulding it into such a form as will readily suggest or express its purpose, to make manifest the hidden structural principle. Innumerable instances of a similar kind will occur to everybody.

Or, again, consider the meaning of such a universal feature of Architecture as the capital of a column. There may have been a time, in archaic building, when the capital had, or was supposed to have, a real use in construction. But whatever importance it may once have possessed has long disappeared. In historic building the capital either serves no constructive purpose at all, or one so insignificant that it may safely be disregarded. Even a circular column, a portion at the top being left square, will sustain its architrave or archivolt as well without a capital as with one, while the capitals of square columns, of octagonal columns, of pilasters, can seldom possess any perceptible value as construction. In mediæval Architecture we find capitals on the convex mouldings of door and window jambs, on the mullions of windows, and in many similar positions, where it is obvious that they serve no purpose of construction. The capitals of an Early English doorway are nothing more than a series of small moulded projections of no use in the construction, which in fact is equally good where the capitals have been omitted. We have here then a remarkable survival; but for what reason has this feature survived during all these ages, when so many other features of archaic building have been left behind? The answer is that, although the capital is very seldom essential to constructive fact, it is of immense value to the expression of constructive idea. Its use in the Building Art is infinitesimally small, but its use in Architecture is beyond estimation. Not necessary to construction, it is yet necessary to the manifestation of structural principle. The abacus and echinus of the Parthenon, the Early English bell capitals of Salisbury Cathedral, might have been omitted with no loss to the construction of those famous buildings; but with how great loss to their expression of the dynamics of structure!

The simplest and perhaps the most ancient constructive principle of which we have any knowledge is that of the architrave or beam supported by two or more vertical posts or pillars. There is always in this elementary construction, even in vulgar uses of it, a suggestion of the prehistoric; it carries the mind back to Stonehenge, to the primæval builders of the Asiatic forests, to the earliest works of man. Simple and primitive as this principle is, it has been found capable of manifold expression in Architecture. The Greek Temple illustrates it with a wonderful poise of emphasis, in the lines of the architraves, in the echinus of the capitals, in the flutings of the columns, and it is the principal constructive idea which underlies all Classic and Renaissance Architecture. In some places, as in porticoes and peristyles, we see the real construction expressed, and, as it were, explained, by emphasis. In other places, such as windows and doorways, the real but latent

construction is made manifest; while in other places again, as in pilasters and engaged architraves, the *idea* only of the construction is given in a symbolic form; like a recurrent chime, or a stately formula repeated at intervals. Applied pilasters and architraves have been censured, often no doubt with good reason. But they cannot be wholly condemned unless we condemn in all Architecture the illustration of the dynamics of construction.

The great constructive principle of the Arch and its abutment has been expressed by Architecture in a remarkable variety of ways, but never surely with so much insistence, with so much thoroughness, with such exuberance and vivacity, as in the ecclesiastical Architecture of the Middle Ages. When we stand before one of those great churches the impression it makes upon us is not so much the impression of an arched structure as of a building wholly composed of arches. Everywhere we perceive a multiplicity of arched forms, repeated sometimes with stately emphasis, sometimes with almost fantastic extravagance. The windows are arched, the doorways—nay, the solid walls themselves, the very buttresses and pinnacles, the very bases and parapets, appear as though constructed of clusters of arches. We enter, and the same arched structure confronts us on every side in apparently endless repetition. Great arcades separate nave and aisles, the ceiling is a vast labyrinth of arches crossing and recrossing and intersecting in all directions. The walls are formed of long series of arcades of all kinds from the simplest to the most intricate and complex; the windows and sometimes the arcades contain a succession of lesser arches, and are filled with arched forms endlessly varied or repeated. Everything is arched, every niche, every canopy; even the tombs and monuments, even the wooden doors and furniture, are as though built of arches; arches are inscribed on the pavements and painted on the glass of the windows. An infinite variability runs all through this profusion of arched forms; there are arches within arches; cusped arches, as though the arch itself sustained yet other arches; ogee arches, reversed arches. The whole building is a sort of lyrical expression of arched structure, an elaborate symphony in which the central theme recurs throughout innumerable variations.

When we carefully consider in detail one of these great Architectural compositions we find that of this vast array of arches only a part, and perhaps the smaller part, has an essential constructive purpose, and that the rest perform no service to the actual construction, and are in fact nothing more than Architectural expressions of the dominant structural idea. The great arches between the nave and aisles are facts of construction, and the Architectural emphasis here consists in giving to each arch of the series the appearance of being made up of several distinct arches, placed one within the other, and defined by sharp angles and hollows. Many of the other arches again, such as the arcades of the triforium, though obviously not necessary parts of the construction, are real structural facts employed for an Architectural purpose. But when due allowance has been made for all these there will still remain a vast number of arches and arched forms which fulfil no constructive purpose, and which are not properly arches at all, but symbols of arched structure. Many of these are merely arched shapes cut out of solid blocks of stone and not built with radiating joints; many indeed, such as the cusped arch, the ogee, and the reversed arch, could not possibly be built as true arches. There is no feature more characteristic of this Architecture, no feature in any Architecture more splendid and audacious, than the window tracery. The expression of the idea of arched structure in these windows is perfect, there is in them no suggestion of a pattern, the idea is sustained throughout of an absolutely logical and coherent development of arching. Yet window tracery is not constructed on the principle of the arch, and indeed, if we except some rudimentary and very imperfect forms of it, could not possibly have been so constructed. It was cut out of large pieces of stone and built as much as possible in horizontal courses. True arched construction was avoided of necessity. There is not probably in the whole range of Architectural history a more striking example of the difference between the facts of construction and the expression of structural idea than is furnished by the magnificent window tracery of the fourteenth century.

Many of the riotous and extravagant exhibitions of arched structure which we find in mediæval art are open to just the same kind of objection as the applied pilasters and entablatures of the Classic and Renaissance Schools. When we stand in King's College Chapel at Cambridge and see the whole surface of the building from the floor to the apex of the vaulting divided up into innumerable small arched compartments, and at the same time perceive that the importance of the arch to the real construction has diminished, we feel that the idea had ceased to be vital, and had begun to have a degree of falsity about it. But, that these great churches exhibit in an astonishing manner the purpose of Architecture as a manifestation of structural principle, there can be no question.

We turn to another aspect of Architecture, namely its relation to Nature. Can there be any element of naturalism in this highly artificial Art? To represent the appearances of Nature is surely the business of the painter, of the statuary, of the ornamentist, and, in another way, of the poet. Carved work and painted work, though these may form part of a building, are not Architecture. What has an Art which is concerned only with the relations of abstract form to do with the concrete forms of natural objects? That is the question, and the answer to it is obvious. Architecture certainly can have nothing

to do with the representation of the phenomena of Nature, even in the most conventional way, but it has much to do with the expression of the laws of Nature. Precluded by its very constitution from the possibility of representing natural fact Architecture finds its peculiar office in the representation or manifestation of natural law. Its mission is to express symbolically some of those vast forces whose mysterious agency must have been felt by man from the earliest times, long before Science had named them or explained the mode of their operation.

One of these is the law of Gravitation. Ages before Kepler and Newton men had learnt to recognise gravitation as a universal fact of nature. That all objects possess a quality of *weight*, that some unknown force causes every object to press down upon its supports, that an object insufficiently supported falls to the ground, are truths which must always have been perceived even by primitive savages. Assuredly the idea of weight, of this mysterious and ever-present force, must have strongly influenced the minds of the primæval builders. To build is to recognise the universal law of gravity, of weight; how to evade or suspend the action of that law was the first problem of archaic building. In all ages indeed building is occupied with questions of weight and the support of weight; but these to us familiar problems must have pressed upon the earliest builders with an insistence which we can now but faintly understand. A profound sense of weight and of the difficulty of supporting it must have been formed in the minds of the builders of the archaic ages, and it is not therefore surprising to find the idea of weight very strongly expressed in some of the earliest schools of Architecture; in the ancient architecture of Hindustan for instance, in that of Egypt, and of Greece.

In Egyptian Architecture indeed the law of weight is expressed with startling sincerity and directness. The Pyramid is a perfect emblem of weight, from which every idea of the possibility of support is excluded; it is weight absolute, immovable, fatal. The whole of Egyptian Architecture is oppressive with the suggestion of weight; of enormous incubus either insupportable or supported only with infinite difficulty and by the exercise of gigantic effort. Greek Architecture expresses the same law not less distinctly than Egyptian, but with a remarkable difference. The sense of weight is everywhere very finely indicated, even in the supports, in the entasis of the column, in the Dorian capital, in the Ionic base; but, on the other hand, we are made to feel that all this weight is sustained with perfect ease. The emphasis of weight is counterbalanced by the emphasis of support. Greek Architecture is the equal expression of the power of weight and of the power of upholding weight.

These forces are illustrated more or less in all Architecture and in a great variety of ways by over-hanging storeys and corbellings, by machicolations and massive cornices, and generally by the skilful use of Proportion. The modern architect when he increases the size of a cornice or adds to the height of a parapet is unconsciously obeying an instinct inherited from archaic builders, and is expressing one of the laws by which all things exist.

The law of Growth will always be felt as the antithesis of the law of weight or gravitation, however unscientific such a feeling may be. That mysterious force by which all living things spring up and are sustained must have been regarded with wonder and admiration in all ages. But it might well seem impossible to manifest this vital power in Architecture if it were not for the fact that it has been already manifested with extraordinary success in the Architecture of the Middle Ages. The expression of the law of Growth is indeed the masterpiece of Gothic architecture. The interior of a great Cathedral is like no other work of man, it contradicts reason, it imposes the idea of a living and growing organism, and not of a laborious effort of human hands. We are sensible of a feeling of aspiration, the eye travels instinctively and inevitably upwards from the base to the apex of the vault, not downwards from the weight to the support. The capitals instead of expressing the idea of sustaining weight are hollowed out in vivacious curves. While Roman and Norman arches seem to exercise a ponderous pressure downwards upon the pillars, the Gothic arches convey the idea of springing up from, or even out of, the pillars by an energy of their own. Every line, every curve, expresses the force of a living growth. The idea of weight is obliterated from these great structures, every part appears as though it sustained itself by an inherent vitality. Even the ponderous vaults give no impression of weight, but seem rather to be instinct with the self-supporting energy of living things. In some of the *flamboyant* churches of France the expression of organic life, of vital power, almost amounts to an illusion, and our sensibilities are affected as by some marvellous and enchanted growth, for a moment arrested and perhaps in another moment to be revived. It may be doubted whether Architecture can anywhere show a greater triumph.

Here we must stop, not because we have come to the termination of our subject, but because the termination is not yet even in sight. By your indulgence we have travelled together a little way along a road which has often I fear been wearisome; we may no longer follow it, though it still stretches far in front of us. For indeed every line if steadily pursued soon apears to be endless; it leads off into infinity, whether it belongs to the universe of space or to the universe of thought.